Becoming a Mom®

State Aggregate Report

January 2019-December 2019

Kansas Department of Health and Environment
Bureau of Family Health
1000 SW Jackson Street, Suite 220
Topeka, KS 66612

Kansas Department of Health and Environment

march of dimes

KANSAS MATERNAL & CHILD HEALTH

Kansas Department of Health and Environment
Becoming a Mom® Program Evaluation
Report Covers January 2019 - December 2019 Program Data
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Acknowledgement

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Executive Summary

Improving prenatal education and support is key to improving the health of pregnant persons and infants. Kansas has been working to improve access to such services for all pregnant persons in the state. The Kansas Department of Health and Environment has worked diligently with the March of Dimes to implement the Becoming a Mom®/Comenzando bien® (BaM/Cb) prenatal education curriculum across the state, in a consistent and reliable manner, since 2014. The Becoming a Mom® 2019 State Aggregate Report summarizes overall data for BaM sites based on a single year's data for the 2019 BaM calendar year and 2019 Kansas birth statistics. This report represents 18 sites aggregated together.

In the initial phase of the program, BaM/Cb works to educate pregnant persons about ways to improve their own health and steps to take to improve the health of their baby in order to experience positive birth outcomes such as reduced preterm births. While the goal of the program is to improve health of pregnant persons and will accept all pregnant persons who want to enroll in the program, the BaM/Cb program specifically aims to provide education to those pregnant persons that are more likely to be at risk (low socioeconomic status, racial/ethnic minorities) to reduce disparities among those populations through time. The below data demonstrates success of the program in reaching these target populations.

Pregnant persons receiving prenatal education in the BaM/Cb program were:

- More likely to be racial/ethnic minorities, especially Hispanic and non-Hispanic Black individuals
    - Non-Hispanic Black: BaM, 8.0%; Kansas Births, 6.8%
    - Hispanic: BaM, 35.7%; Kansas Births, 17.2%

- More likely to be younger
    - Under 17 years old: BaM, 3.5%; Kansas Births, 1.3%
    - 18-19 years old: BaM 8.8%; Kansas Births, 4.1%
    - 20-24 years old: BaM 27.3%; Kansas Births, 21.4%

- More likely to have a lower education level
    - High school education or less: BaM, 47.1% ; Kansas Births, 35.8%

- More likely to be enrolled in WIC
    - WIC enrollment: BaM, 44.2%; Kansas Births, 26.6%

- More likely to have non-private insurance
    - Private Insurance: BaM, 45.0%; Kansas Births, 56.5%
    - KanCare/Medcaid: BaM, 33.8%; Kansas Births, 29.6%
    - None/Self Pay: BaM, 12.0%; Kansas Births, 7.4%

- More likely to initiate prenatal care in the first trimester
    - First trimester: BaM, 89.0%; Kansas Births, 80.9%
    - Initially Not Seeing A Provider: BaM, 1.7%; Kansas Births, 0.9%
    - All of those who reported not seeing a provider in the initial survey and completed the program ended up initiating prenatal care before completion of the program.

- Less likely to self-report smoking during pregnancy
    - BaM, 6.0%; Kansas births 8.5%

After completing the BaM/Cb program, participants were more likely to report that they were:

- Very likely to talk with their healthcare provider if they experience depression or anxiety
- Very knowledgeable about available resources in their community if they experience depression or anxiety
- Very likely to breastfeed their baby
- Very confident or confident in their ability to breastfeed their baby
- Very likely to report talking to their provider about preventing close interval pregnancy after the birth of their baby
- Understanding there is great benefit in waiting 18-24 months between pregnancies

After completing the BaM/Cb program, BaM/Cb participants showed a significant improvement in their knowledge around signs of preterm labor, what to do in the case of preterm labor, postpartum symptoms of concern, the benefits of a full-term pregnancy, truths about breastfeeding, and safe sleep practices.

While education of BaM/Cb participants is a critical element of the program, it is also important to understand the impact of the education and support on pregnancy outcomes through time. For the BaM/Cb report, several measures are tracked to understand birth outcomes as well as the general health of both the participant and baby at the time of delivery.

After a successful first attempt with the 2018 report, the 2019 report again includes linkage of BaM records and vital records for key outcome measures including gestational age, low birth weight, induced deliveries, cesarean deliveries, and breastfeeding initiation, to improve data reporting for participants giving birth after participation in the BaM/Cb program. The linkage was once again highly successful and lead to an almost 50% increase in the possible records available for analysis of those measures.

For BaM/Cb participants with available outcomes data, they had:

- A significantly lower preterm birth rate (4.4%) compared to Kansas births in general (10.1%)
- Similar, but slightly improved, low birthweight rate (6.9%) compared to Kansas births in general (7.6%), surpassing the Healthy People 2020 goal of 7.8%
- Lower likelihood of cesarean deliveries (28.3%) compared to Kansas births in general (29.7%)
- Significantly higher rate of induced delivery (41.1%) compared to Kansas births in general (36.9%)
    - Looking at only those participants in the original BaM outcome survey who reported a reason for induction (no reason is provided in the vital statistics record) and a reported induction (after linkage), 98.6% of participants reporting an elective induction were for births with a gestational age of at least 39 weeks (not shown). This is in line with ACOG recommendations for non-medically necessary inductions and other national education campaigns (i.e., Healthy Babies are Worth the Wait,

by the March of Dimes[1]; Is it Worth it, by the Eunice Kennedy Shriver National Institute of Child Health and Human Development[2]).

- Similar, but slightly higher rate of breastfeeding initiation (91.0%) compared to Kansas births in general (88.9%)

Other key findings worth noting:

- BaM/Cb participants reported they had connected, or had planned to connect, to multiple services including breastfeeding support (76.7%), car seat installation by a certified car seat technician (77.2%), WIC (68.5%), and Medicaid (63.2%)
- Over 60% of participants reported being referred to the program by collaborative partners, reinforcing the significance of the Kansas Perinatal Community Collaborative (KPCC) model.

The above summary of findings suggests that while serving the most at risk populations in our state, the program is still highly successful in increasing knowledge, changing behaviors, and improving outcomes. This data demonstrates how outcomes are improved when education and support is gained through targeted interventions such as the Becoming a Mom®/Comenzando bien® (BaM/Cb) program and when community partners are working together, as is demonstrated with the KPCC model, to assure such resources are accessible in the community. This validates the importance of continuing, strengthening and expanding such initiatives in our state.

[1] Healthy Babies are Worth the Wait, by the March of Dimes; retrieved from https://www.marchofdimes.org/news/healthy-babies-are-worth-the-wait.aspx

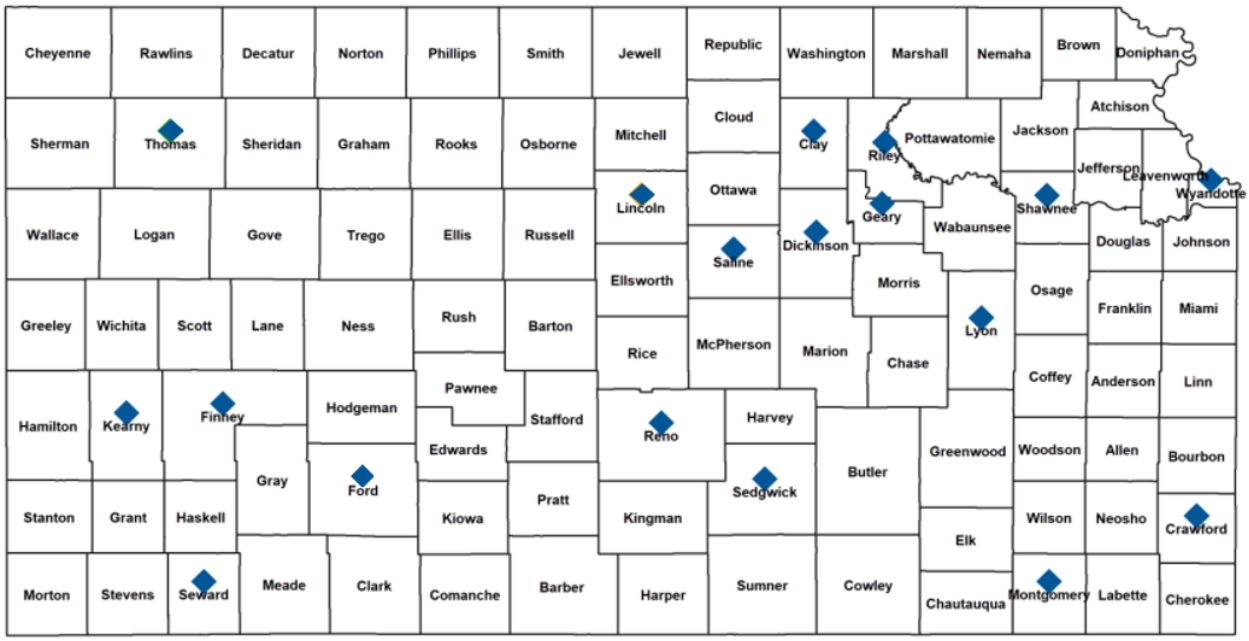
[2] Is it Worth it, by the Eunice Kennedy Shriver National Institute of Child Health and Human Development; retrieved from https://www.nichd.nih.gov/ncmhep/initiatives/is-it-worth-it/moms

Introduction

This report is a summary of evaluation results for January 1, 2019 through December 31, 2019 for the Becoming a Mom®/Comenzando bien® (BaM/Cb) program in Kansas. Specifically, this report summarizes findings from the pre and post-surveys, follow-up health outcome questionnaires, and utilizes the following forms: Initial Survey (Pre-Survey), Completion Survey (Post-Survey), Birth Outcome Card (Outcomes), BaM Service Form, and KDHE Program Visit Form (Adult with Profile).

The BaM/Cb program (see Figure 1 for BaM program sites) analyses were conducted, and data were reported for the following Kansas counties: Clay, Crawford, Dickinson, Finney, Ford, Geary, Kearny, Lincoln, Lyon, Montgomery, Reno, Riley, Saline, Sedgwick, Seward, Shawnee, Thomas, and Wyandotte.

Figure 1. Location of BAM Sites



BaM Sites included in 2019 report

Data/Methods

This report includes participants who completed their post-survey (i.e., Completion Survey) in the Data Application and Integration Solutions for the Early Years system (DAISEY) between January 1, 2019 and December 31, 2019. DAISEY is a shared measurement system designed to help communities see the difference they are making in the lives of at-risk children, youth and families.[3] These data were screened, cleaned, and merged. Two data sets were created: one for participants completing their post-survey between January 1, 2019 and December 31, 2019 and another for those completing their outcome survey in the same time frame.

Brief data descriptions of the primary datasets and the data cleaning methodology used for this report are provided below. All datasets used for the analyses are derived from KDHE's Data Application and Integration Solutions for the Early Years (DAISEY) system. Data operations including data cleaning,

[3] DAISEY Solutions, https://kdhe.daiseysolutions.org/new-to-daisey/

deduplication, recoding, and transfer record creation, as well as the map of locations, were completed using R software. For the final report, figures and tables were developed using SAS 9.4.

Pre-Survey

For the pre-survey, records were extracted from DAISEY for the year prior to the evaluation year as well as the current evaluation year (1/1/2018-12/31/2019). This allows for any participants that may have started the BaM program before the evaluation period, or fell out and returned to complete the program, to be captured for analysis. Based on this data extract, there were 2,593 records for surveys completed during the two-year period. After evaluation, cleaning, deduplication of records and inclusion of transfer records, 2,491 records were available for potential linkage with the post-survey. Table 1 shows those participants who only took the pre-survey in the year 2019 to better represent who entered the program that year.

Post-Survey

Records for the post-survey were extracted from DAISEY for the 2019 calendar year (1/1/2019-12/31/2019). After evaluation, cleaning, deduplication of records and inclusion of transfer records, there were 901 records available for the pre and post record linkage.

Pre-Post Linkage

Data for the pre- and post-survey were linked based on the participant's ID in the DAISEY system. Some participants may have multiple IDs in the system, so data exploration was also conducted to evaluate participants (based on Name and DOB) who had differing ID numbers. As of July 2019, Geary County was recategorized in DAISEY to "Delivering Change". This added to the number of individuals with different IDs. These ID numbers were then evaluated between datasets, to establish transfer records (as noted above) or to correct erroneous records with multiple IDs before linkage. Once the transfer (or duplicate) status of a participant was verified, records were linked based on the final IDs available. There were 903 final records, including transfer cases, and 901 cases for statewide analysis when transfer cases were removed.

Outcomes

For the outcome records, data were extracted based on the 2019 calendar year (1/1/2019-12/31/2019). There were 727 initial records extracted from the outcomes file, which was reduced to 717 records after evaluation, cleaning, and deduplication of records, leaving 717 potential records for evaluation of infant outcomes.

Surveys Collected by Site

Data presented throughout the report represent 901 unique mothers with a post-survey completed between January 1, 2019 and December 31, 2019 (Table 1). The data in the outcome section represents unique participants with a completed outcome survey in the same time frame (N=717).[4]

[4] Note: All participants that completed an outcome form in 2019 were included for analysis. The date of completion for the form, however, does not necessarily represent a birth during the reporting period, only that the form was completed in the reporting period.

Table 1: Number of Surveys Collected by Site and Survey

Site Name	Pre-Survey*	Post-Survey*	Outcome**
Clay County	2	2	5
Crawford County	45	28	25
Geary County	77	51	28
Dickinson County	28	12	9
Finney County	50	30	32
Ford County	37	22	9
Kearny County	13	5	3
Lincoln County	6	3	1
Lyon County	106	86	90
Montgomery County	20	11	11
Reno County	85	47	40
Riley County	101	60	58
Saline County	113	64	22
Sedgwick County	387	258	173
Seward County	151	140	131
Shawnee County	58	40	33
Thomas County	28	18	14
Wyandotte County	59	24	33
Total	**1366**	**901**	**717**

*The data represent participants who completed the respective form in 2019.
**Note: This number reflects the number of unique participants who completed the outcome survey (therefore does not reflect multiple births).
†Transferred (counted only once in Total).

Outcomes Records

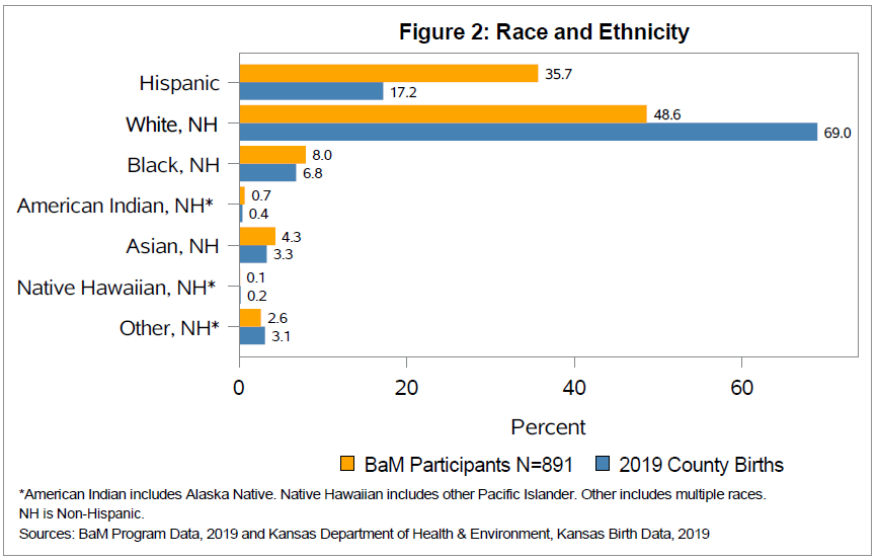
For the 2019 report, mothers from the BaM cohort were linked to the birth tables housed by the Office of Vital Statistics to get a more complete picture of birth outcomes for participants in the BaM program. Both pre-post records with no reported outcomes by the participants and records with reported outcomes were provided for linkage. For the pre-post records with no outcomes, this provided information about available outcomes of interest and for the records with a reported outcome survey, it provided improved information about outcomes. The available fields of interest that were returned from the linkage included birth weight, gestational age, induction, cesarean sections, plural births, breastfeeding initiation, and deaths. Overall, the total outcome records for analyses were increased from 717 to 1058 for the selected measures mentioned above. In some cases, you will notice more outcomes than Initial or Completion surveys. This is due to the fact that individuals may have started the program in 2018 but finished the program or filled out the Outcome Card in 2019.

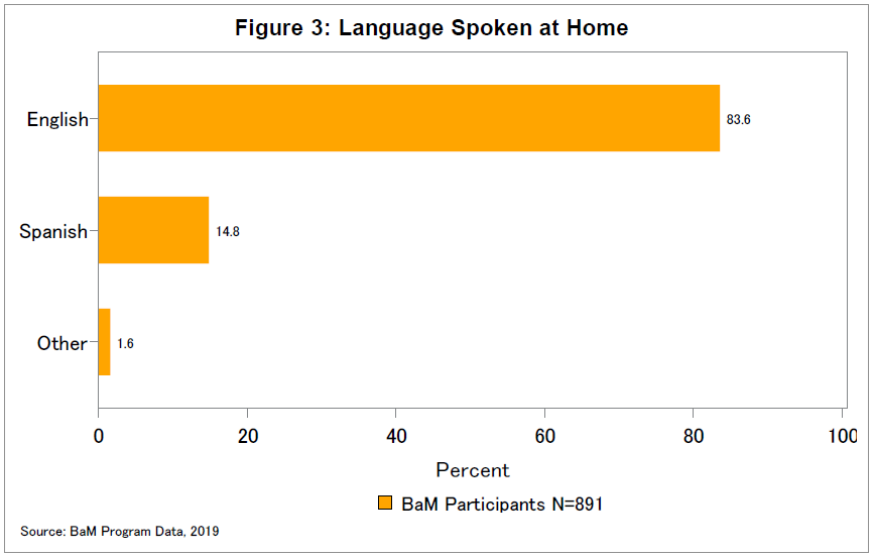
Results/Analysis

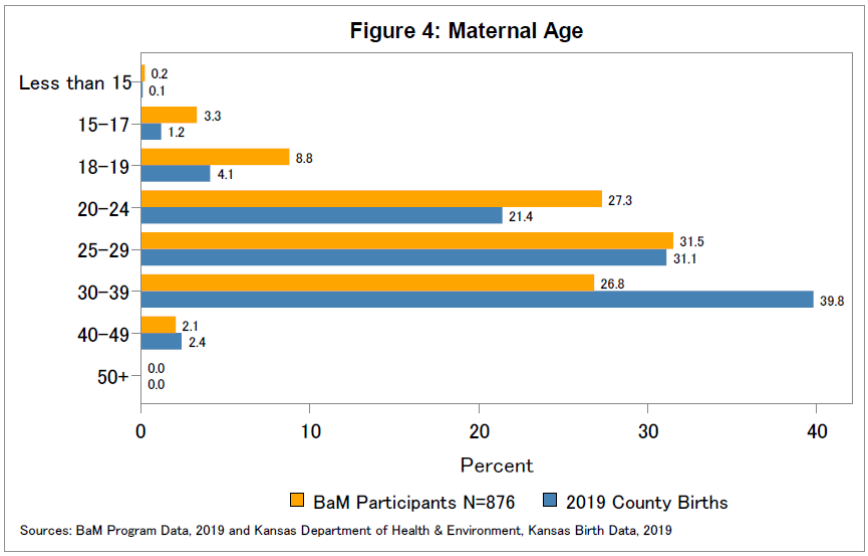
Demographics

Sedgwick County had the greatest number of participant post-surveys (n=258), followed by Seward County (n=140), and Lyon County (n=86). A total of 717 participants completed the outcome survey. Births of multiples included two sets of twins in three counties and one set of twins in two counties. Altogether, 733 outcome surveys were included in the analysis, representing the above-described births.

Overall, the *Becoming a Mom®/Comenzando bien®* (BaM/Cb) participant demographics suggests the program is reaching a more diverse population than the population of the state at large, which is an aim of the program. The predominant racial/ethnic group (of those who filled out completion survey) was non-Hispanic white (48.6%), followed by Hispanic (35.7%), non-Hispanic Black (8.0%), and non-Hispanic other (7.7%) (Figure 2). Most participants (83.8%) reported speaking English at home (Figure 3), which is a lower percentage than the state in general which reports 89.7% speaking primarily English in the home.[1] Age of participants ranged from less than 15 years to 45 to 49 years, with the majority of participants being in their 20s and 30s (Figure 4).







Descriptive Characteristics

Employment status varied among participants, with the highest percentage being employed full-time (Figure 5). About 32% of the participants reported having a college degree, while 47.1% of the participants reported having a high school degree or less (Figure 6). About 44.2% of the participants were enrolled in Women, Infants, and Children (WIC) (Figure 7), which is higher than the overall percentage of enrollment among 2019 births (26.6%) indicating integration efforts between the two programs continue to be successful. Around 34% of the participants were insured by KanCare/Medicaid, which is a higher percentage than for all Kansas births in 2019 (29.6%), 45.0% were insured by private insurance which is a lower percentage than for all Kansas births in 2019 (56.5%), and 12.0% did not have insurance which is a higher percentage than for all Kansas births in 2019 (7.4%) (Figure 8). Nearly 60 percent (58.9%) of the BaM/Cb participants were experiencing their first pregnancy (Figure 9). The majority (89.0%) of participants initiated prenatal care in the first trimester (Figure 10), a higher percentage than that of all Kansas births (80.9%). About 1 in 17 (6.0%) participants reported being a smoker in the pre-survey (Figure 11). Roughly one in nine (10.6%) participants were told they have a high-risk pregnancy (Figure 12). While two-thirds of participants (66.2%) reported not having a health problem, the two most common health conditions reported were asthma (7.8%) and depression/anxiety (18.0%) (Figure 13). About 35% of participants heard about BaM/Cb through a clinic and more than half (59.2%) of participants started the program in their second trimester, which is a targeted entry point for the program (Figure 15). Out of 618 participants with an Edinburgh Perinatal Mood and Anxiety Screen score recorded, 11.7% required a referral based on a score of 10 or greater (Figure 16). The majority (89.0%) of participants reported not having anything keeping them from their prenatal appointments (Figure 17).

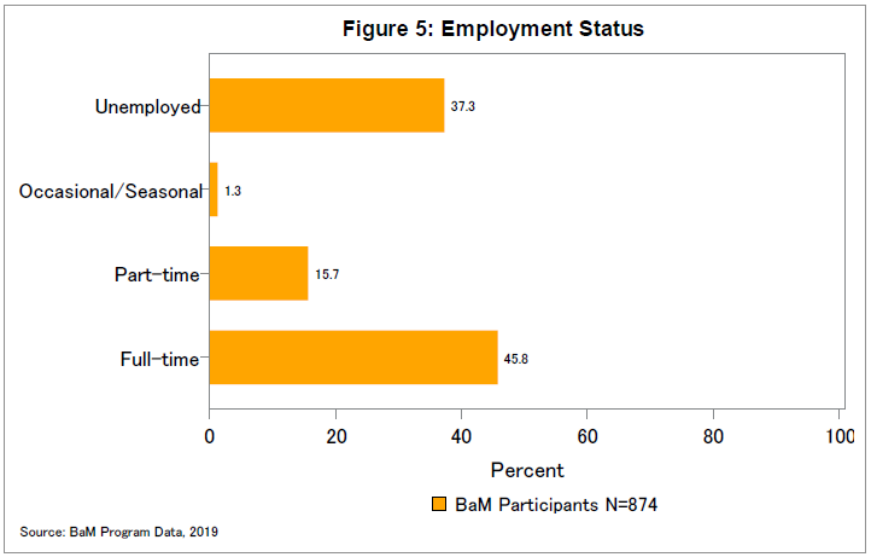


Figure 5: Employment Status
Unemployed
37.3
Occasional/Seasonal
1.3
Part-time
15.7
Full-time
45.8
0
20
40
60
80
100
Percent
BaM Participants N=874
Source: BaM Program Data, 2019

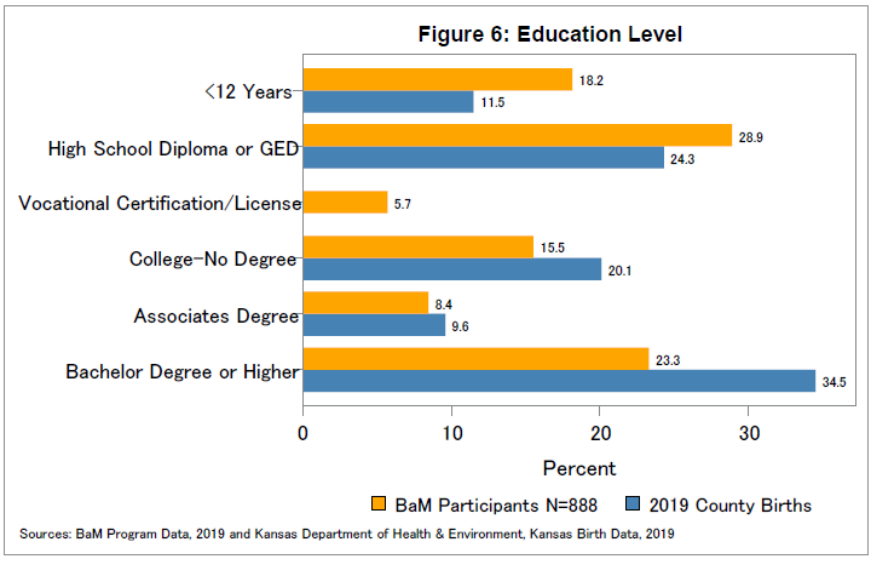


Figure 6: Education Level
<12 Years
18.2
11.5
High School Diploma or GED
28.9
24.3
Vocational Certification/License
5.7
College-No Degree
15.5
20.1
Associates Degree
8.4
9.6
Bachelor Degree or Higher
23.3
34.5
0
10
20
30
Percent
BaM Participants N=888
2019 County Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

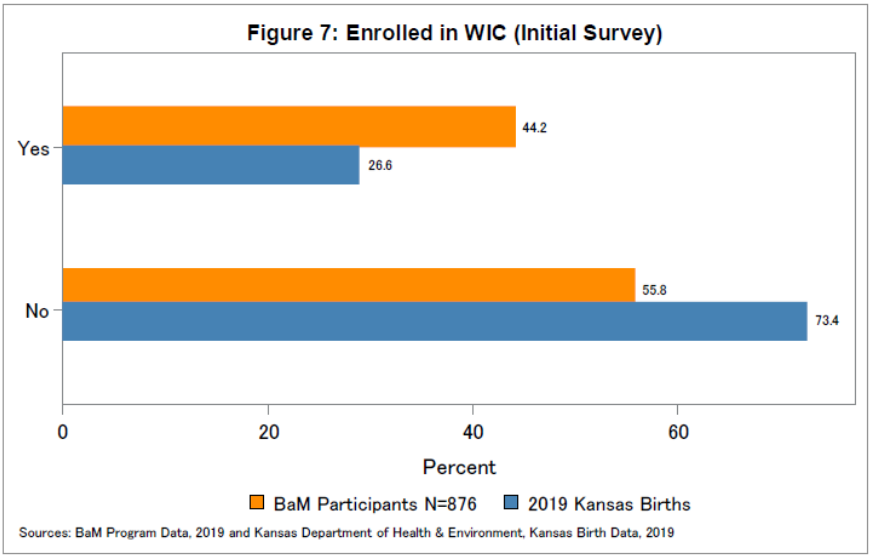


Figure 7: Enrolled in WIC (Initial Survey)
Yes
No
44.2
26.6
55.8
73.4
0
20
40
60
Percent
BaM Participants N=876
2019 Kansas Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

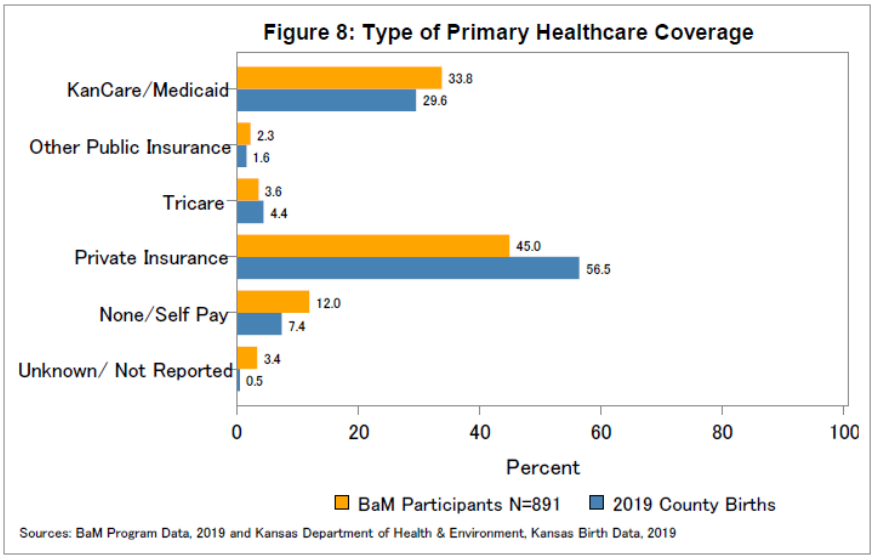


Figure 8: Type of Primary Healthcare Coverage
KanCare/Medicaid
Other Public Insurance
Tricare
Private Insurance
None/Self Pay
Unknown/ Not Reported
33.8
29.6
2.3
1.6
3.6
4.4
45.0
56.5
12.0
7.4
3.4
0.5
0
20
40
60
80
100
Percent
BaM Participants N=891
2019 County Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

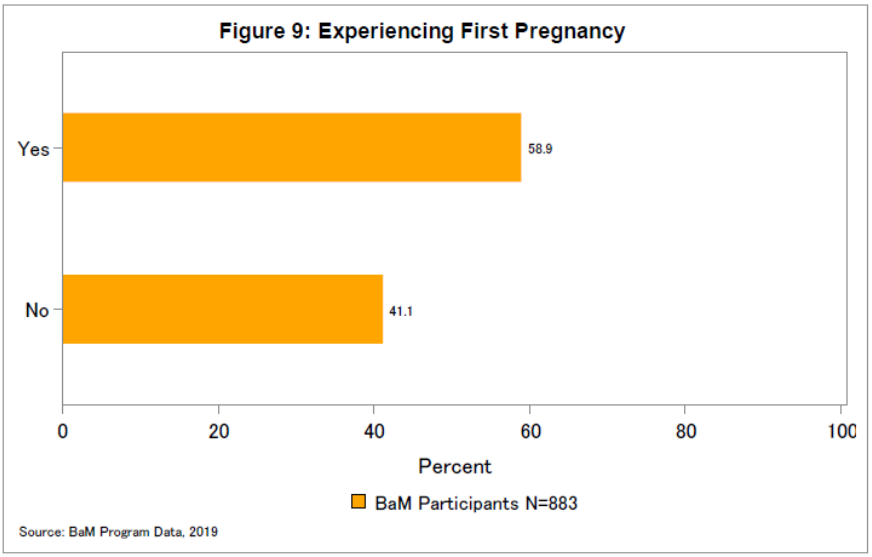


Figure 9: Experiencing First Pregnancy
Yes
No
58.9
41.1
0
20
40
60
80
100
Percent
BaM Participants N=883
Source: BaM Program Data, 2019

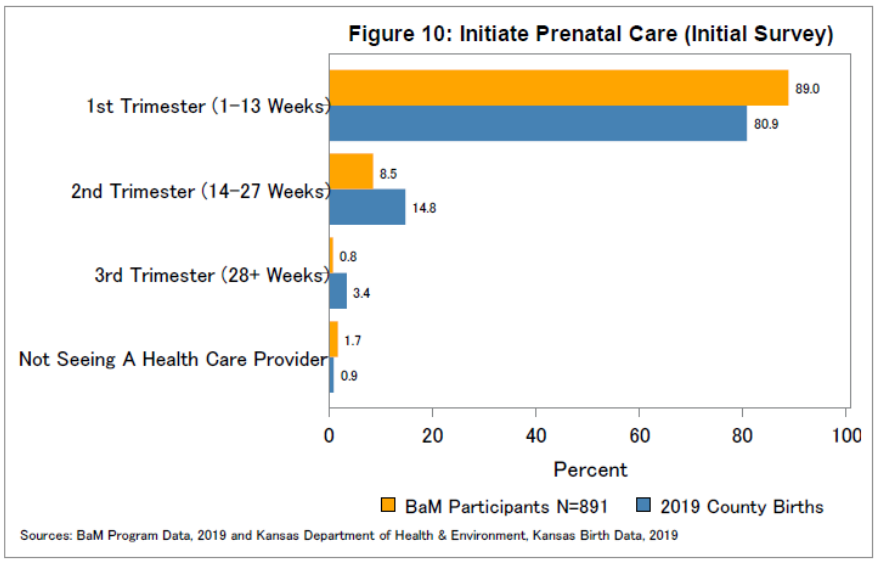


Figure 10: Initiate Prenatal Care (Initial Survey)
1st Trimester (1-13 Weeks)
89.0
80.9
2nd Trimester (14-27 Weeks)
8.5
14.8
3rd Trimester (28+ Weeks)
0.8
3.4
Not Seeing A Health Care Provider
1.7
0.9
0
20
40
60
80
100
Percent
BaM Participants N=891
2019 County Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

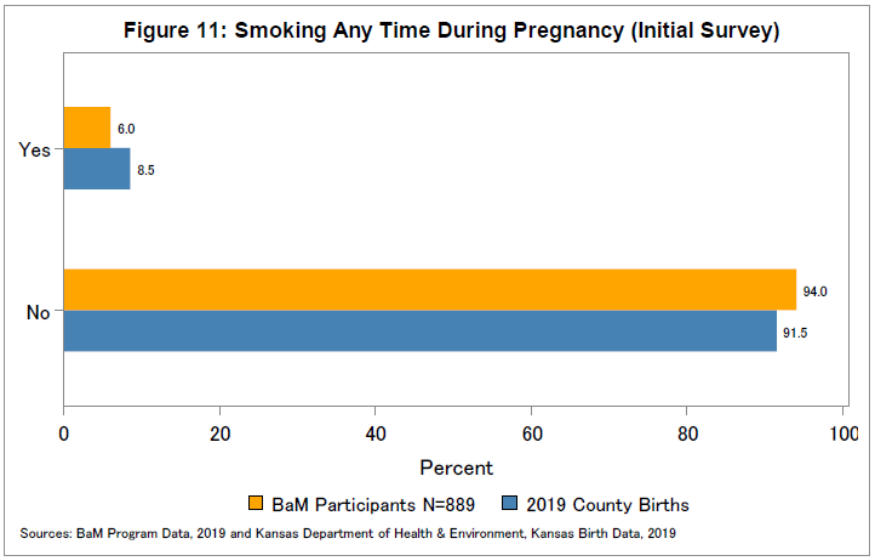


Figure 11: Smoking Any Time During Pregnancy (Initial Survey)
Yes
6.0
8.5
No
94.0
91.5
0
20
40
60
80
100
Percent
BaM Participants N=889
2019 County Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

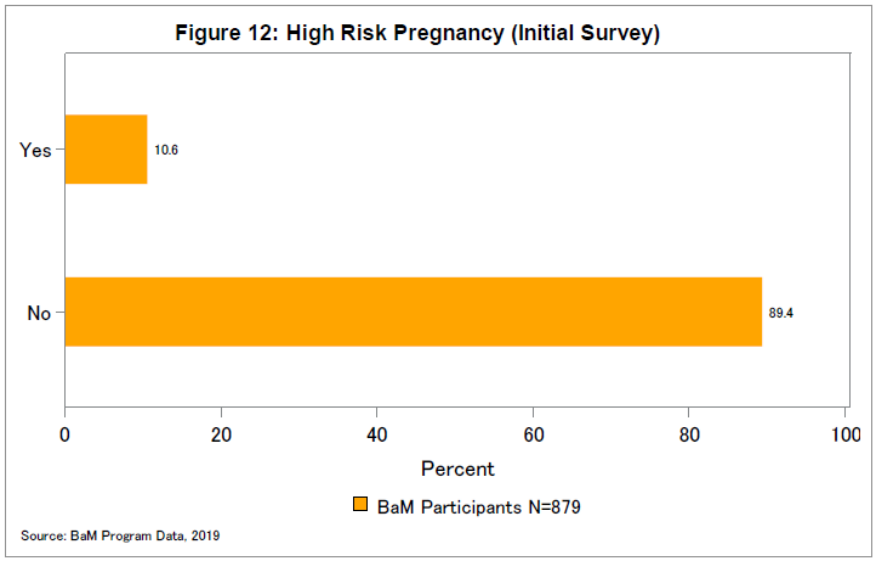


Figure 12: High Risk Pregnancy (Initial Survey)
Yes
10.6
No
89.4
0
20
40
60
80
100
Percent
BaM Participants N=879
Source: BaM Program Data, 2019

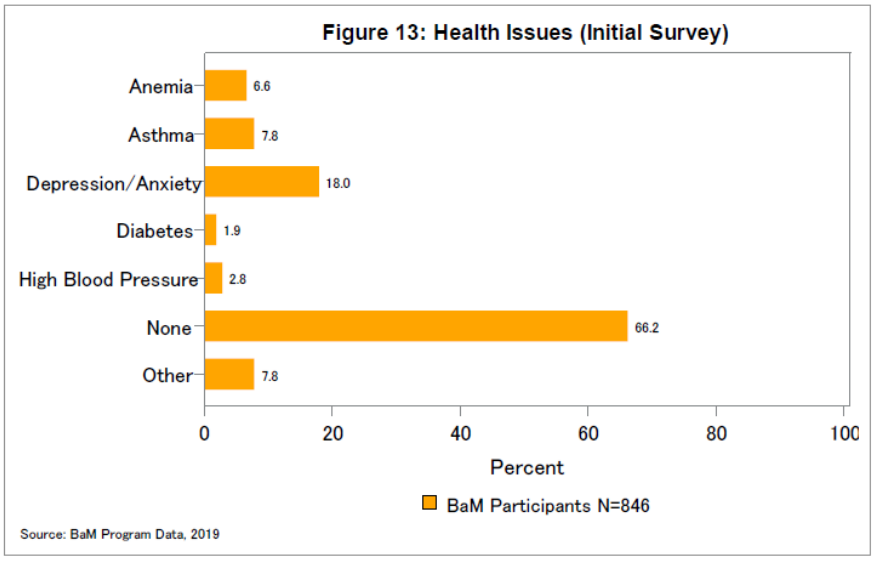


Figure 13: Health Issues (Initial Survey)
Anemia
6.6
Asthma
7.8
Depression/Anxiety
18.0
Diabetes
1.9
High Blood Pressure
2.8
None
66.2
Other
7.8
0
20
40
60
80
100
Percent
BaM Participants N=846
Source: BaM Program Data, 2019

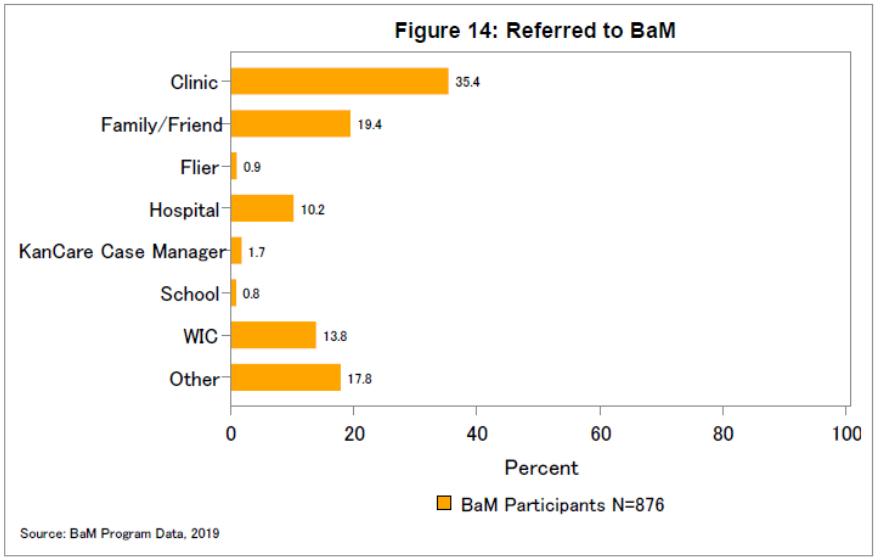


Figure 14: Referred to BaM
Clinic
35.4
Family/Friend
19.4
Flier
0.9
Hospital
10.2
KanCare Case Manager
1.7
School
0.8
WIC
13.8
Other
17.8
0
20
40
60
80
100
Percent
BaM Participants N=876
Source: BaM Program Data, 2019

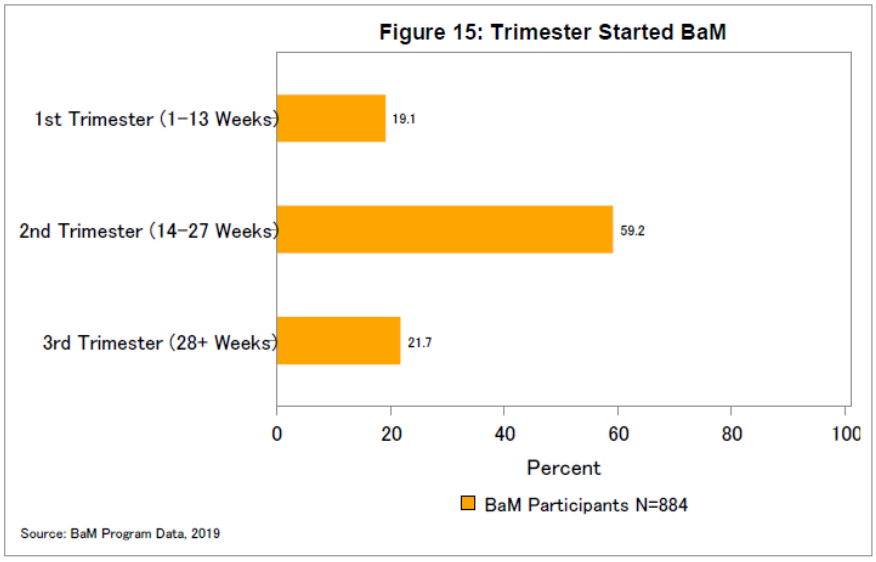
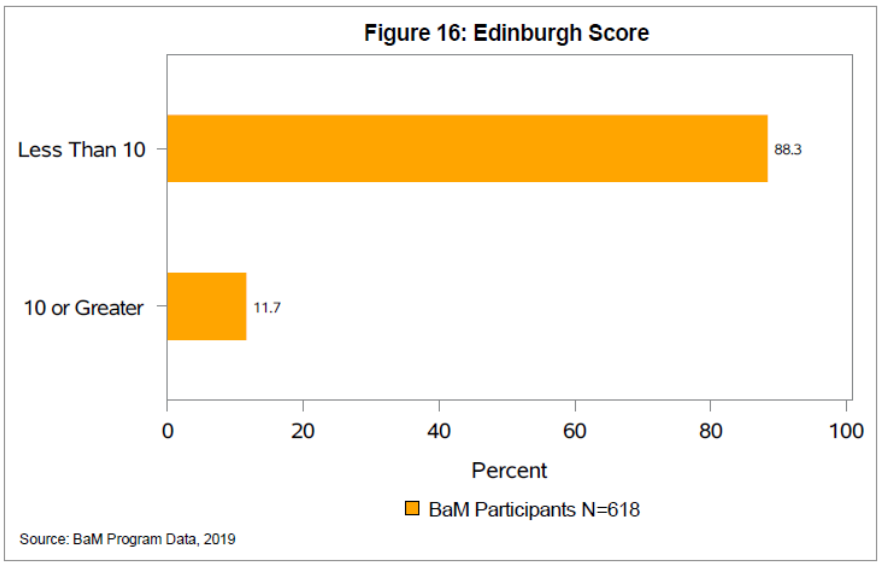
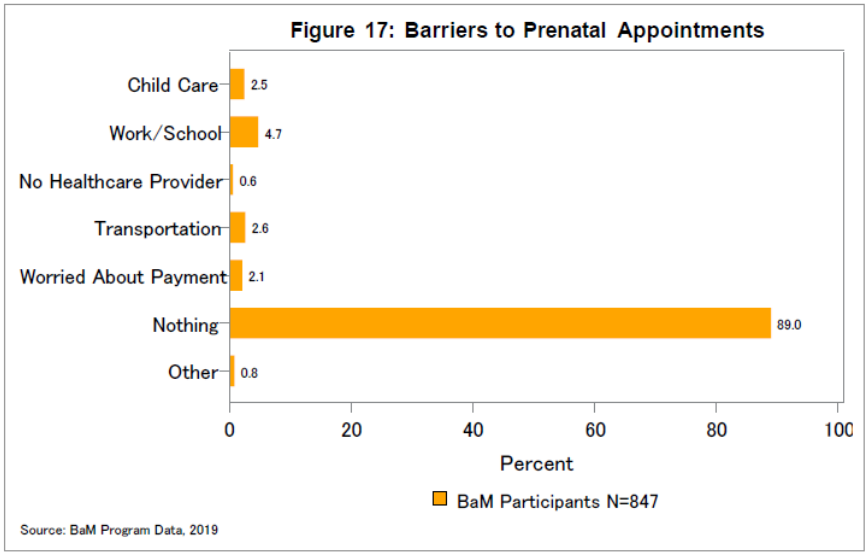


Figure 15: Trimester Started BaM
1st Trimester (1-13 Weeks)
19.1
2nd Trimester (14-27 Weeks)
59.2
3rd Trimester (28+ Weeks)
21.7
0
20
40
60
80
100
Percent
BaM Participants N=884
Source: BaM Program Data, 2019





Change in Knowledge/Behavior

Post-intervention, participants report they were more likely to talk to a healthcare provider or access available resources if they experienced depression and/or anxiety during or after pregnancy (Figure 18). Participants also reported being more knowledgeable about available resources in the community related to depression and/or anxiety (Figure 19). Most participants were already likely to discuss medications with a healthcare provider before taking them but the percent of participants reporting they were very likely to discuss medications with a healthcare provider improved slightly post intervention. (Figure 20). There was improvement in the number of cigarettes smoked per day from pre to post survey, but the change was minimal. Over 9 in 10 participants were non-smokers during their time in BaM/Cb. Most of the participants who did smoke, reported smoking less than half a pack of cigarettes a day (Figure 21).

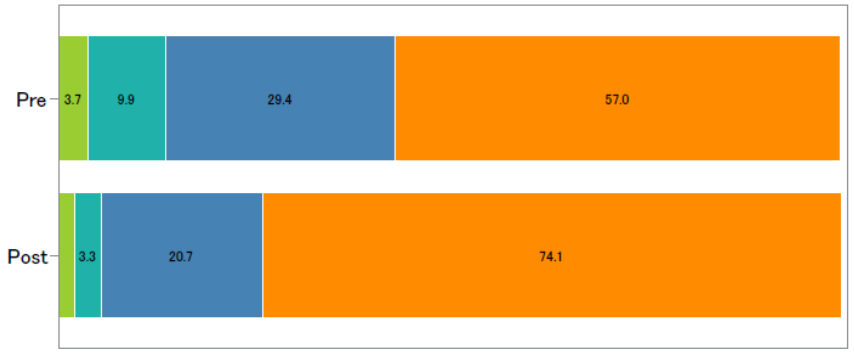
There was a 9.5% increase (from 72.9% to 82.4%) in the number of women who reported being very likely to breastfeed, post-intervention (Figure 22). Additionally, following program completion, participants gained confidence in their ability to breastfeed (Figure 23) and were more knowledgeable about resources available to help with breastfeeding (Figure 24).

Participants were able to demonstrate significantly increased knowledge about the benefits of full-term pregnancy and breastfeeding. Participants also reported significantly greater knowledge about "back to sleep" (Figure 25). They additionally demonstrated planned change in behavior, as there was an increase pre to post-intervention in those who reported planning to place their baby on his/her back to sleep (Figure 26) and in a crib, bassinet or portable crib only (Figure 27).

There was an increase in participants' likelihood of discussing a plan for post pregnancy prevention with their provider during prenatal care with a 16.4 % increase of participants saying they were very likely to discuss with their provider post-intervention (Figure 28). Post-program, more participants believe there is great benefit (an increase of 17.8%) to waiting a minimum of 18 months between pregnancies (Figure 29).

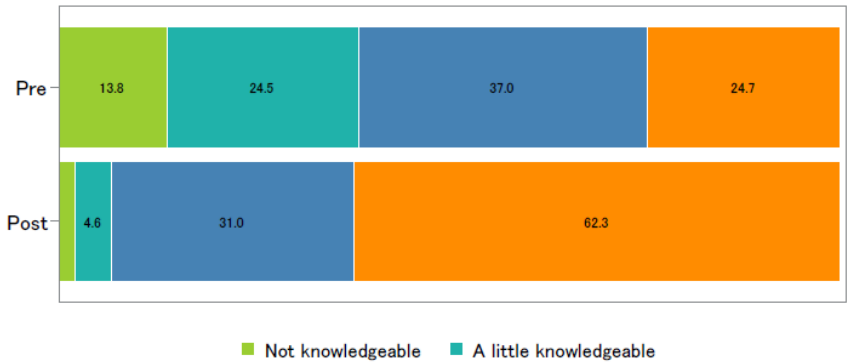
There was a slight improvement in participants' intake of a prenatal or multivitamin containing folic acid in the "Never" category and a related slight increase in taking a daily prenatal or multivitamin containing folic acid was observed (Figure 30). Participants showed a slight overall increase in the number of days per week they do 30 minutes of low impact to moderate exercise (Figure 31).

Figure 18: If I experience depression and/or anxiety during or after my pregnancy, I am ___to talk with my healthcare provider and/or access available resources



&seventeen
Source: BaM Program Data, 2019

Figure 19: If I experience depression and/or anxiety during or after my pregnancy, I am ___about available resources in my community



N=861
Source: BaM Program Data, 2019

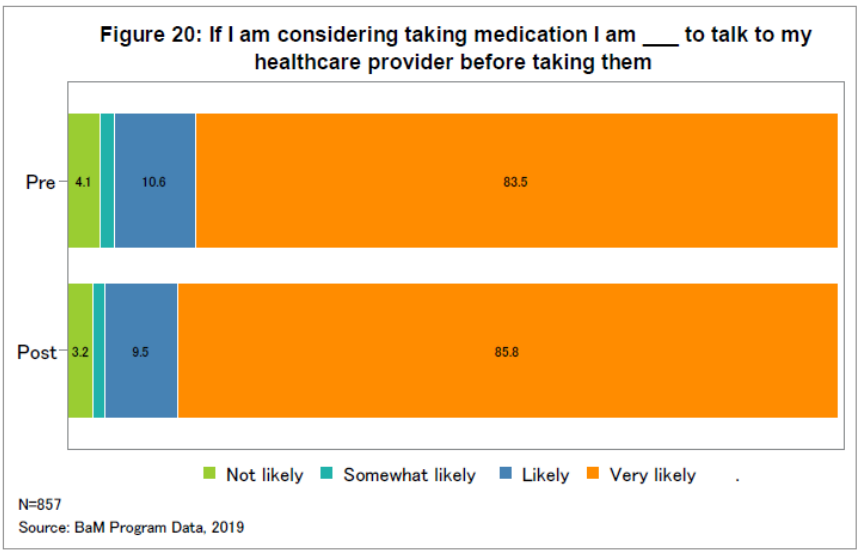


Figure 20: If I am considering taking medication I am ___ to talk to my healthcare provider before taking them
Pre
Post
4.1
10.6
83.5
3.2
9.5
85.8
Not likely
Somewhat likely
Likely
Very likely
N=857
Source: BaM Program Data, 2019

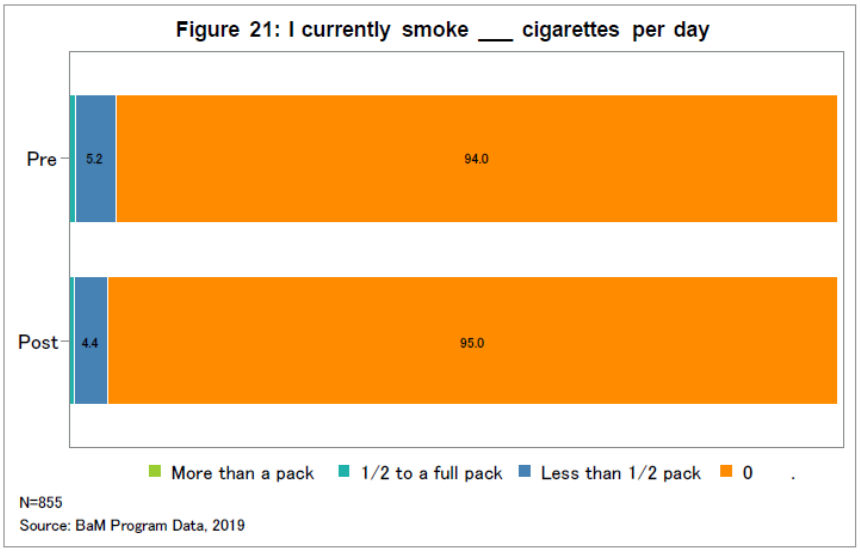


Figure 21: I currently smoke ___ cigarettes per day
Pre
Post
5.2
94.0
4.4
95.0
More than a pack
1/2 to a full pack
Less than 1/2 pack
0
N=855
Source: BaM Program Data, 2019

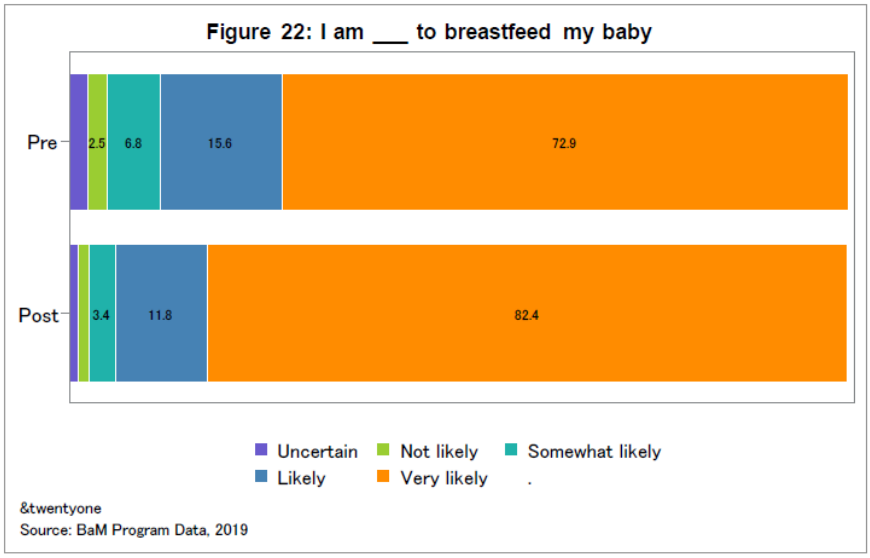


Figure 22: I am ___ to breastfeed my baby
Pre
Post
2.5
6.8
15.6
72.9
3.4
11.8
82.4
Uncertain
Not likely
Somewhat likely
Likely
Very likely
&twentyone
Source: BaM Program Data, 2019

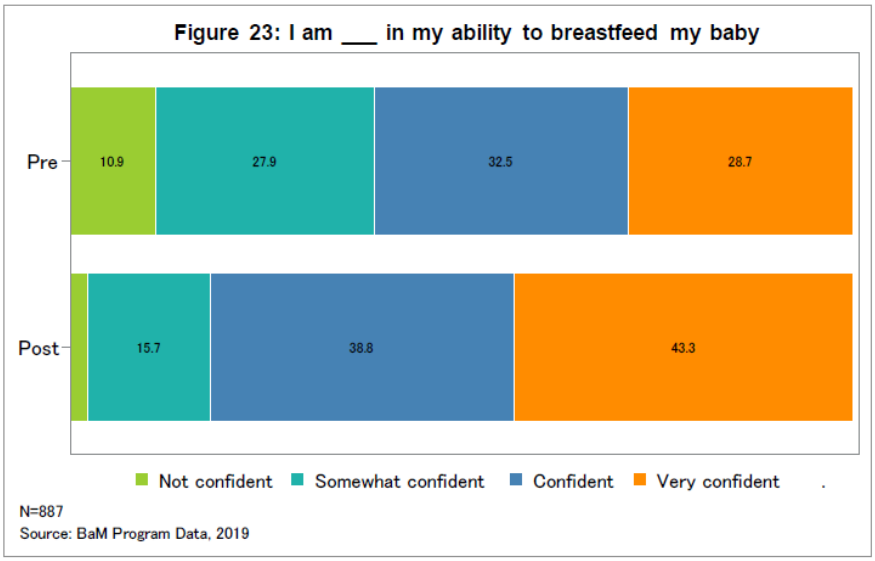


Figure 23: I am ___ in my ability to breastfeed my baby
Pre
Post
10.9
27.9
32.5
28.7
15.7
38.8
43.3
Not confident
Somewhat confident
Confident
Very confident
N=887
Source: BaM Program Data, 2019

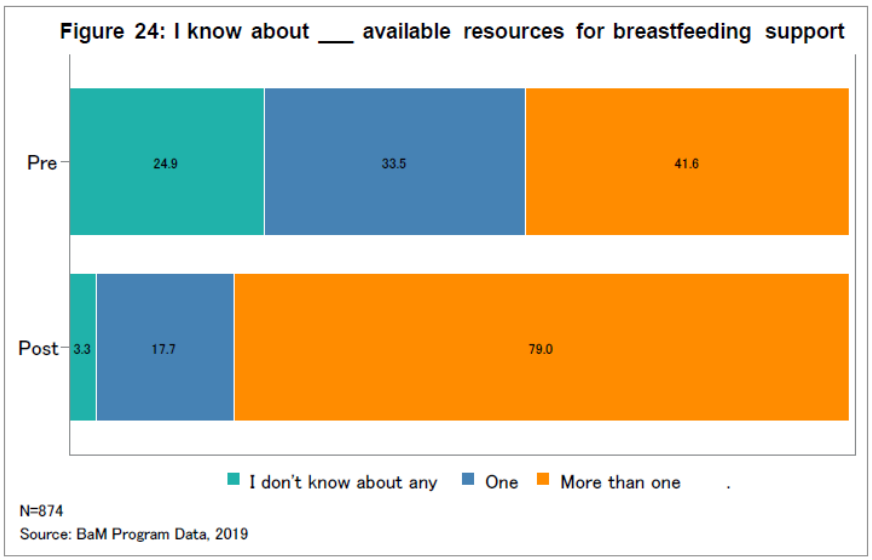


Figure 24: I know about ___ available resources for breastfeeding support
Pre
Post
24.9
33.5
41.6
3.3
17.7
79.0
I don't know about any
One
More than one
N=874
Source: BaM Program Data, 2019

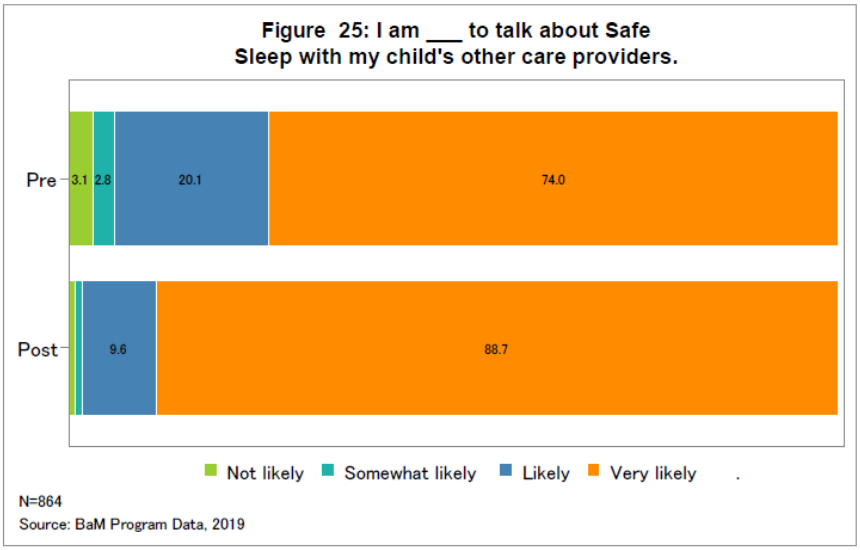


Figure 25: I am ___ to talk about Safe Sleep with my child's other care providers.
Pre
Post
3.1
2.8
20.1
74.0
9.6
88.7
Not likely
Somewhat likely
Likely
Very likely
N=864
Source: BaM Program Data, 2019

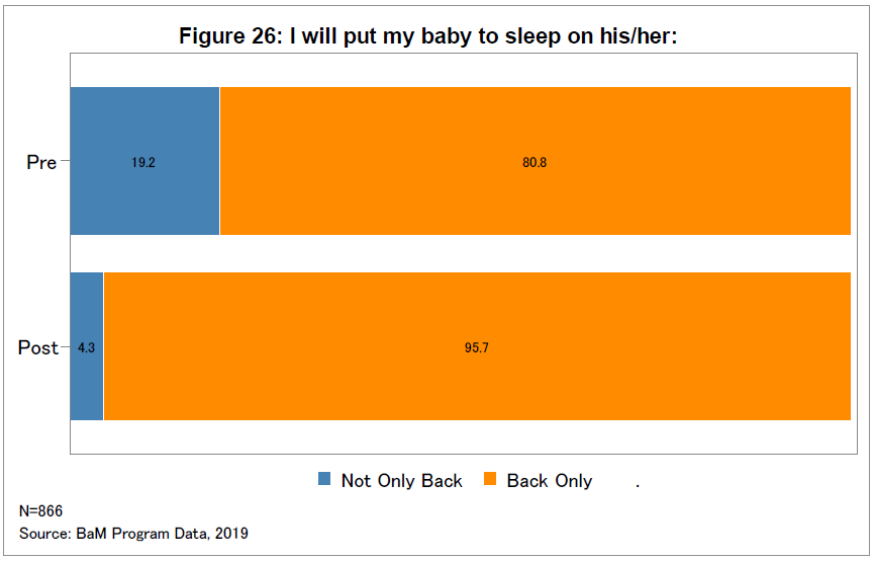


Figure 26: I will put my baby to sleep on his/her:
Pre
Post
19.2
80.8
4.3
95.7
Not Only Back
Back Only
N=866
Source: BaM Program Data, 2019

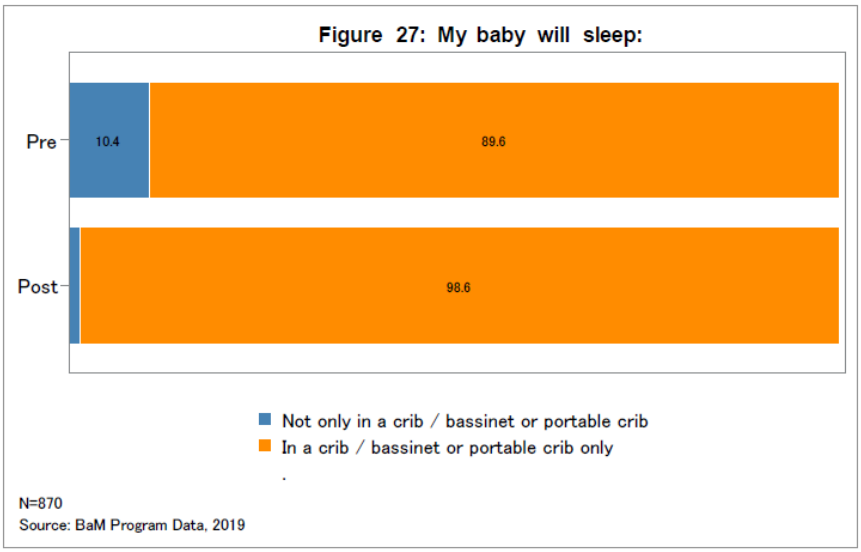


Figure 27: My baby will sleep:
Pre
Post
10.4
89.6
98.6
Not only in a crib / bassinet or portable crib
In a crib / bassinet or portable crib only
N=870
Source: BaM Program Data, 2019

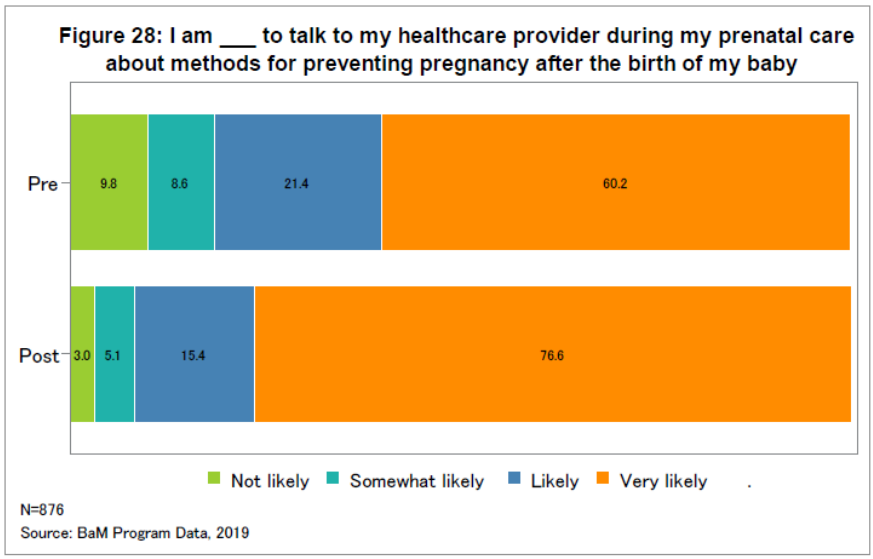
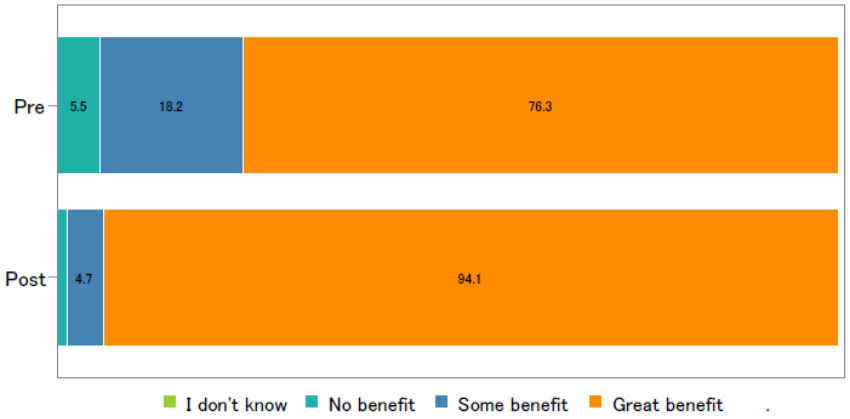


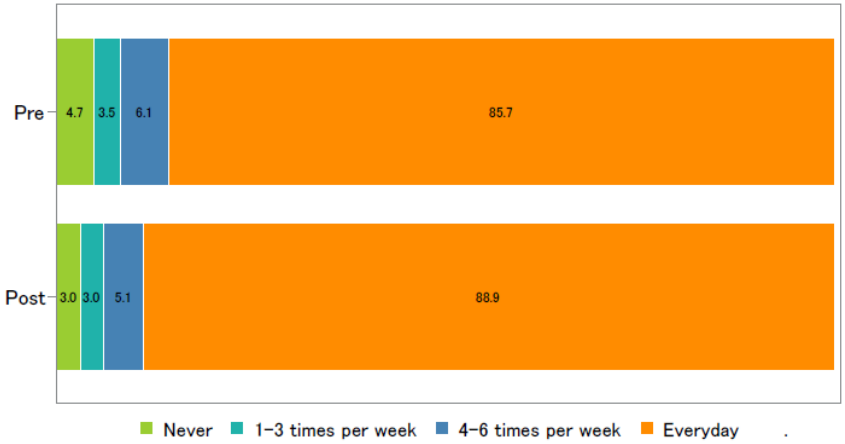
Figure 28: I am ___ to talk to my healthcare provider during my prenatal care about methods for preventing pregnancy after the birth of my baby
Pre
Post
9.8
8.6
21.4
60.2
3.0
5.1
15.4
76.6
Not likely
Somewhat likely
Likely
Very likely
N=876
Source: BaM Program Data, 2019

Figure 29: I believe there is ___ benefit for waiting 18-24 months between pregnancies



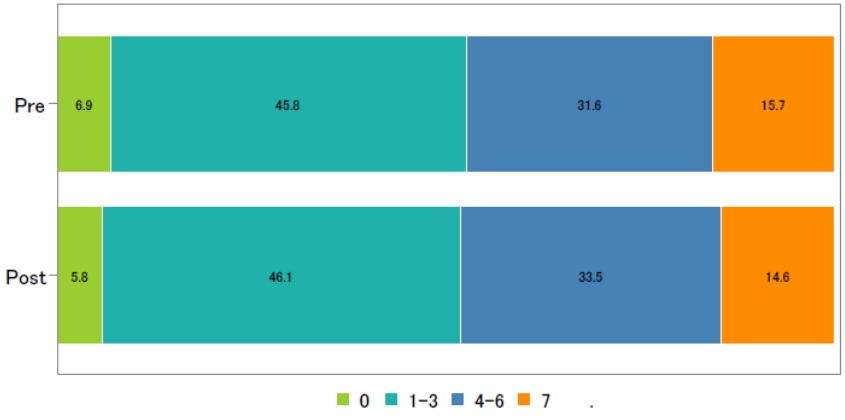
N=870
Source: BaM Program Data, 2019

Figure 30: I currently take prenatal or multi-vitamins containing folic acid:



N=853
Source: BaM Program Data, 2019

Figure 31: I walk or do at least 30 minutes of moderate, low-impact physical activity ___ days per week



N=876
Source: BaM Program Data, 2019

All questions related to preterm labor signs had significant improvements from pre to post surveys (Table 2). Two questions related to what a participant should do if they are experiencing preterm labor symptoms showed significant improvement, while participants showed a significant decrease in the need for calling a healthcare provider in the event of preterm labor symptoms.

Questions related to postpartum symptoms all showed significant improvements in correctly identifying postpartum concerns, such as differences in bladder control, night sweats, baby blues, postpartum panic, and needing a nap, on the post survey. The exception to this was the postpartum bleeding patterns, where 100% of the women got the correct answer in both pre and post survey.

BaM/Cb participants also reported that they had connected, or had planned to connect, to multiple services including breastfeeding support (76.7%), car seat (77.2%), WIC (68.5%), and Medicaid (63.2%) (Table 3).

Table 2: Pre/Post-Intervention Answers to Knowledge Questions (percentage answering correctly)

Question	Pre-Survey (%)	Post-Survey (%)
Signs of Preterm Labor		
Color of discharge or bleeding	71.8	87.3*
Feeling that baby is pushing down	58.1	79.5*
Backache	53.4	75.8*
Belly cramps	45.9	70.5*
Cramps that feel like your period	64.7	76.7*
Should a pregnant woman do the following if she is experiencing preterm labor		
Call her healthcare provider right away	93.3	85.5*
Stop what she is doing & rest on her left side for one hour	37.9	79.9*
Drink 2-3 glasses of water or juice (not coffee or soda)	31.0	69.2*
Do nothing, and wait for an hour or two to see if the symptoms go away	100	100*
Postpartum Symptoms		
After discharge from the hospital, bleeding more than a pad in an hour	59.3	64.3*
Fever	91.5	90.3
Difference in bladder control	50.6	59.7*
Night sweats	17.0	51.2*
Extreme fatigue	76.3	80.8*
Baby blues	46.8	65.9*
Non-stop crying	83.4	85.8
Panic	80.3	83.6*
Needing a nap	70.6	77.7*
Lack of interest in baby	82.5	83.1
Benefits of Full Term Pregnancy		
Full brain development	93.8	97.9*
Full lung development	90.6	92.2
Less likely to be admitted to NICU	74.4	81.8*
Improved breastfeeding	65.7	72.5*
Truths about breastfeeding		
My baby will be less likely to have diabetes later in life	55.1	77.5*
I will lower my risk of some types of cancer	52.0	74.7*

Frequency of breastfeeding within the first 48 hours after birth can have an effect on producing enough milk	69.4	75.5*
My breastfeeding experience should not be painful	37.4	62.6*
*The differences between pre- and post- survey results were statistically significant (P<0.05) The participant needs to have a response in both the pre and post survey to be included in the table.		

Table 3: Intent to Contact Community Services/ Programs (Post Survey)

Program	Have Contacted/ Plan to Contact Percent (N)	Total Respondents	Skipped Question (Number of Respondents)
Breastfeeding	76.7% (675)	880	11
Car Seat	77.2% (681)	882	9
Childcare	42.2% (373)	884	7
Domestic Violence Prevention	4.4% (39)	880	11
Housing	13.1% (115)	880	11
KIDS Network	25.9% (226)	872	19
MCH Home Visiting	54.3% (475)	875	16
Medicaid	63.2% (558)	883	8
Mental Health	24.4% (213)	873	18
Parenting	64.2% (560)	872	19
Substance Abuse	6.3% (55)	874	17
Tobacco Cessation	6.5% (57)	878	13
Transportation	10.2% (90)	881	10
WIC	68.5% (603)	880	11
Other Pregnancy Resource	38.7% (336)	869	22
Other Resource	24.4% (187)	765	126
N is number of respondents			

Outcomes

The reported preterm birth rate (<37 weeks) was 4.4% for program births (Figure 32). This was significantly lower than the state rate of 10.1%. For BaM births, about 6.9% were low birthweight (less than 2500 grams), which was lower, but not significantly, than the state rate of 7.6% (Figure 33). The percentage of babies born with low birthweight surpassed the Healthy People 2020 goal of 7.8%.

About 28.3% of the births for the BaM/Cb participants in the linked dataset ended in a cesarean delivery, comparable to 29.7% of all 2019 births statewide (Figure 34). For the participants who reported a cesarean delivery on the outcome form, the majority (93.8%) reported it was medically necessary/doctor recommended (Figure 35). About two in five (41.1%) of BaM/Cb participants in the linked dataset were induced, compared to 1 in 3 (36.9%) of all Kansas births in 2019 (Figure 36). For BaM/Cb participants in the linked dataset that reported an induced delivery, 82.0% reported that their delivery was full term (39 weeks). Of the participants who reported an induced delivery on the outcome survey, about one in five (20.4%) reported it was elective (Figure 37).

Nearly one in three (29.0%) of the participants reported having a medical condition (Figure 38). For participants with a medical condition, the most common type was high blood pressure/pre-eclampsia (34.5%) followed by gestational diabetes (33.0%) (Figure 39).

About one in nine (11.4%) babies had a medical condition (Figure 40). Among babies with a medical condition, respiratory condition (32.5%), prematurity (22.5%) and jaundice (20.0%) were the most commonly reported. About one in four babies had a medical condition that fell into the other category (28.8%). (Figure 41).

Breastfeeding initiation among program participants is at 90.4%, which was higher than the state rate of 88.9% (Figure 42). This also exceeded the Healthy People 2020 goal of 81.9% for infants who are ever breastfed.[2] Of the participants who were still breastfeeding at the time of outcome survey completion, approximately two out of three (63.6%) reported exclusively breastfeeding their baby (Figure 43).

Most (78.1%) participants reported continued use of a daily multivitamins after birth (Figure 44).

The majority (80.3%) of participants reported using a form of birth control post-birth (Figure 45).

About six in 10 (58.0%) of the babies were/would be insured by Medicaid (Figure 46).

Around eight out of 10 participants (83.3%) had their child's first checkup scheduled (Figure 47) and 71% of postpartum participants in the program had their postpartum checkup scheduled by the time of completion of the Birth Outcome Card (timing of completion varies by site) (Figure 48).

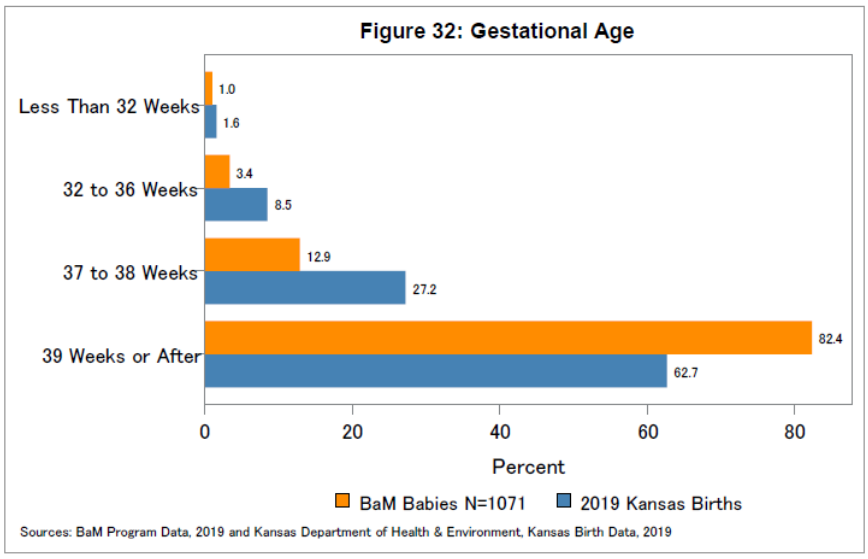


Figure 32: Gestational Age
Less Than 32 Weeks
1.0
1.6
32 to 36 Weeks
3.4
8.5
37 to 38 Weeks
12.9
27.2
39 Weeks or After
82.4
62.7
0
20
40
60
80
Percent
BaM Babies N=1071
2019 Kansas Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

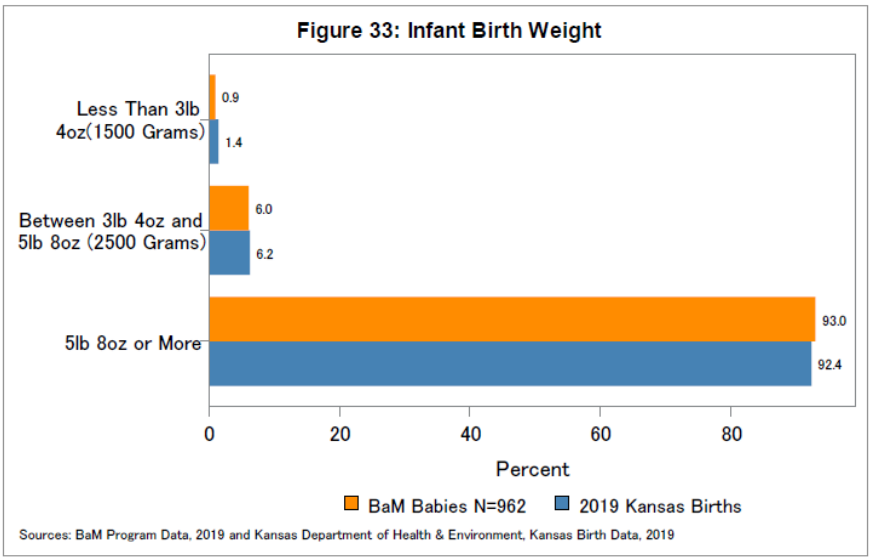


Figure 33: Infant Birth Weight
Less Than 3lb 4oz(1500 Grams)
0.9
1.4
Between 3lb 4oz and 5lb 8oz (2500 Grams)
6.0
6.2
5lb 8oz or More
93.0
92.4
0
20
40
60
80
Percent
BaM Babies N=962
2019 Kansas Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

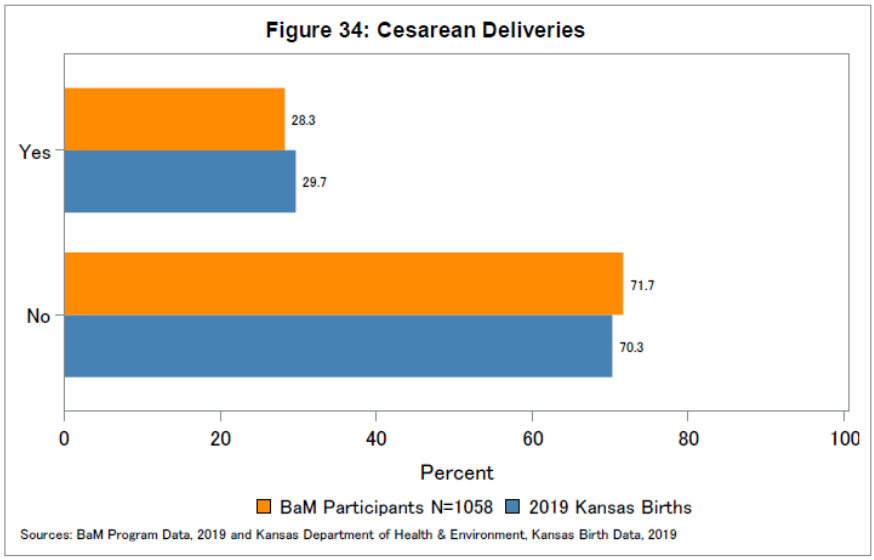


Figure 34: Cesarean Deliveries
Yes
28.3
29.7
No
71.7
70.3
0
20
40
60
80
100
Percent
BaM Participants N=1058
2019 Kansas Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

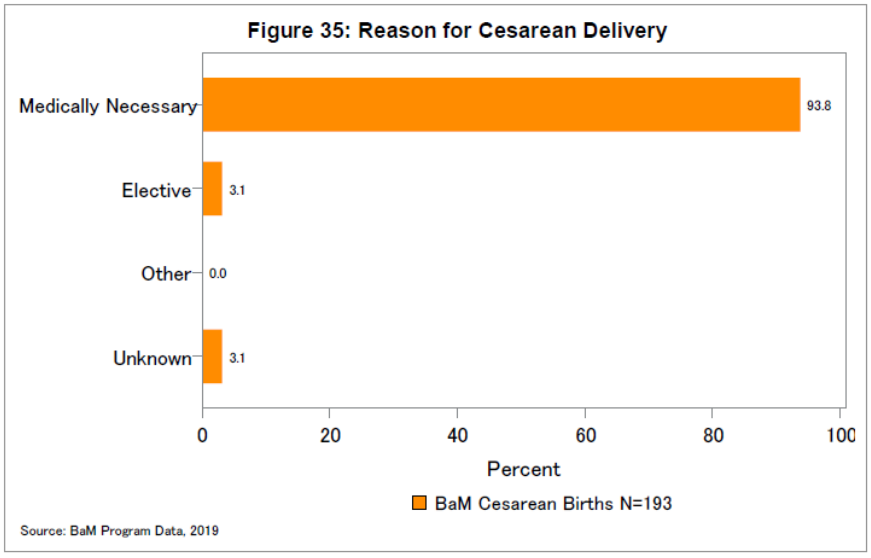


Figure 35: Reason for Cesarean Delivery
Medically Necessary
Elective
Other
Unknown
93.8
3.1
0.0
3.1
0
20
40
60
80
100
Percent
BaM Cesarean Births N=193
Source: BaM Program Data, 2019

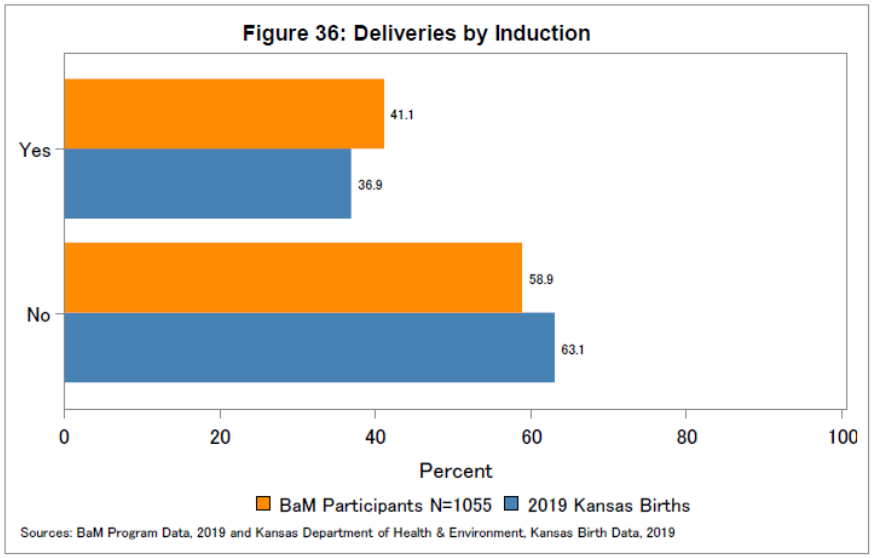


Figure 36: Deliveries by Induction
Yes
No
41.1
36.9
58.9
63.1
0
20
40
60
80
100
Percent
BaM Participants N=1055
2019 Kansas Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

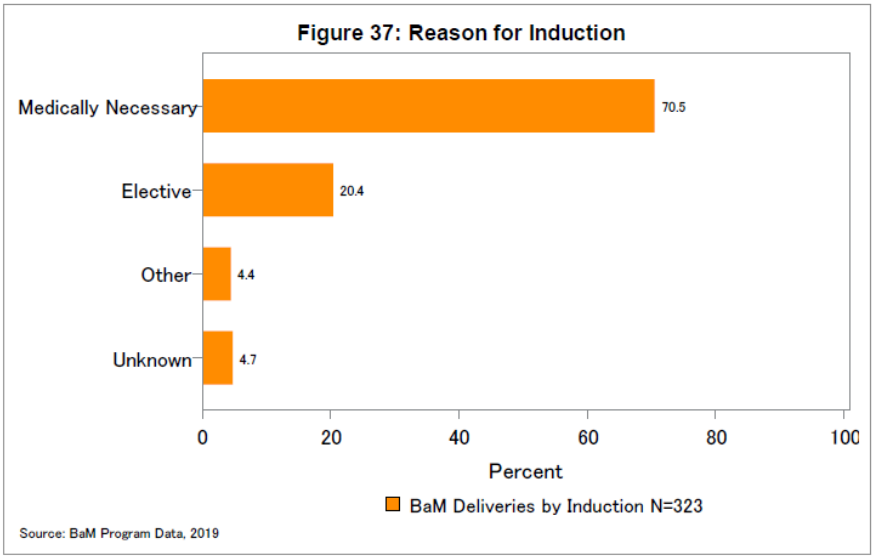


Figure 37: Reason for Induction
Medically Necessary
Elective
Other
Unknown
70.5
20.4
4.4
4.7
0
20
40
60
80
100
Percent
BaM Deliveries by Induction N=323
Source: BaM Program Data, 2019

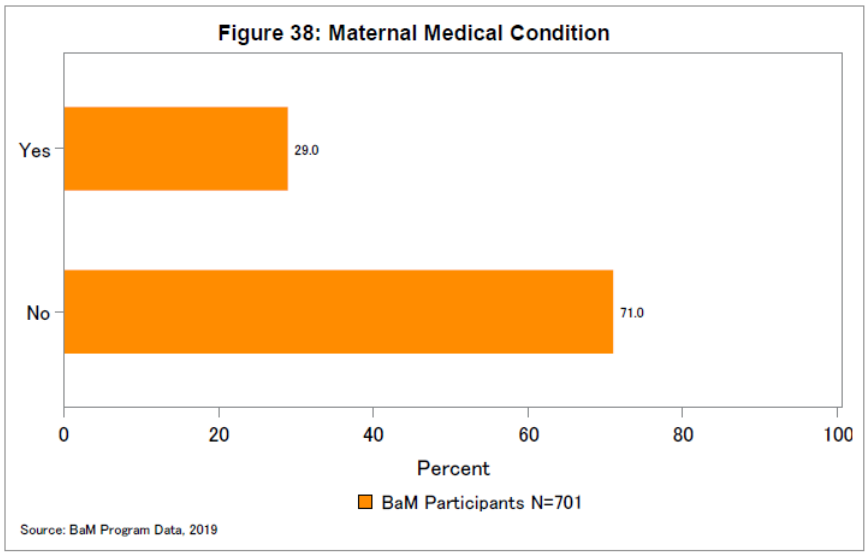


Figure 38: Maternal Medical Condition
Yes
No
29.0
71.0
0
20
40
60
80
100
Percent
BaM Participants N=701
Source: BaM Program Data, 2019

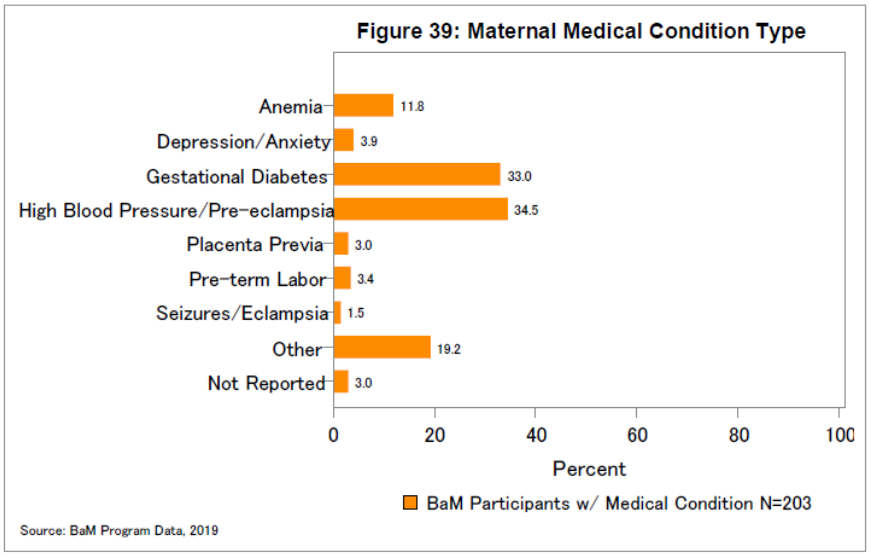


Figure 39: Maternal Medical Condition Type
Anemia
Depression/Anxiety
Gestational Diabetes
High Blood Pressure/Pre-eclampsia
Placenta Previa
Pre-term Labor
Seizures/Eclampsia
Other
Not Reported
11.8
3.9
33.0
34.5
3.0
3.4
1.5
19.2
3.0
0
20
40
60
80
100
Percent
BaM Participants w/ Medical Condition N=203
Source: BaM Program Data, 2019

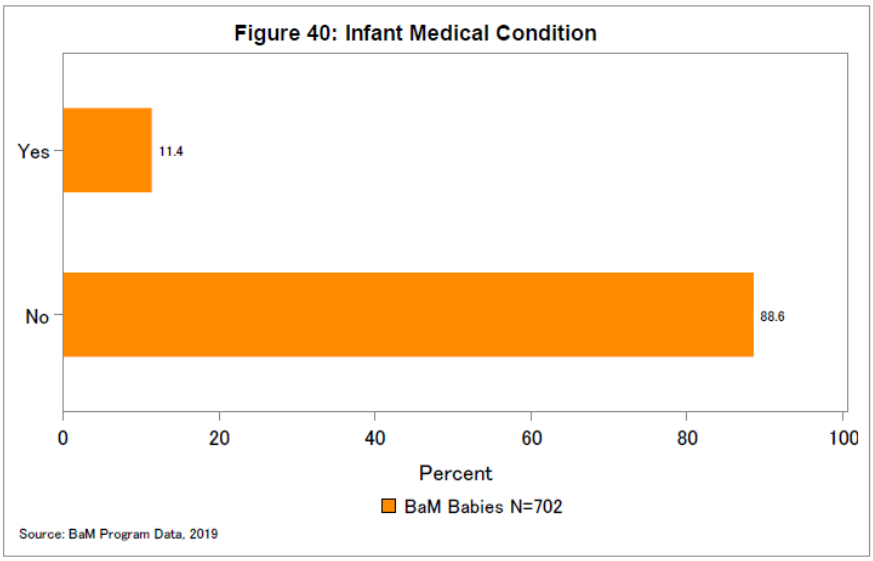


Figure 40: Infant Medical Condition
Yes
No
11.4
88.6
0
20
40
60
80
100
Percent
BaM Babies N=702
Source: BaM Program Data, 2019

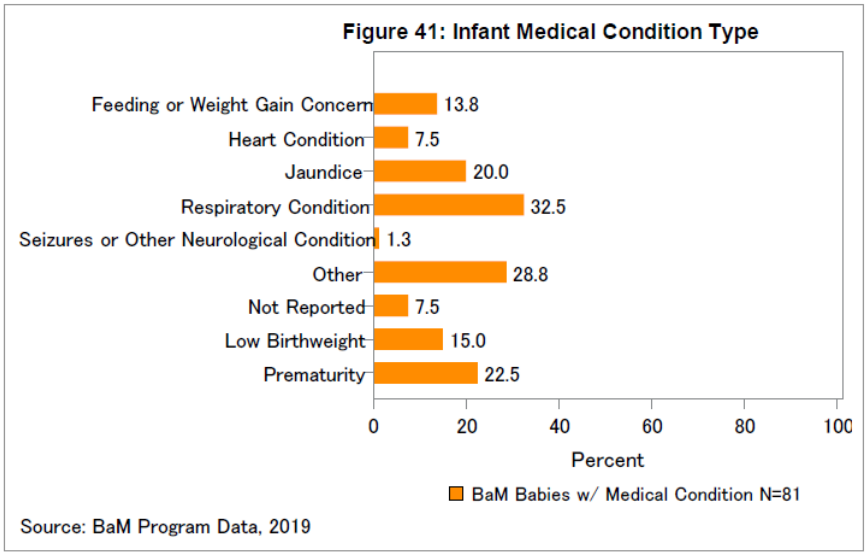


Figure 41: Infant Medical Condition Type
Feeding or Weight Gain Concern
Heart Condition
Jaundice
Respiratory Condition
Seizures or Other Neurological Condition
Other
Not Reported
Low Birthweight
Prematurity
13.8
7.5
20.0
32.5
1.3
28.8
7.5
15.0
22.5
0
20
40
60
80
100
Percent
BaM Babies w/ Medical Condition N=81
Source: BaM Program Data, 2019

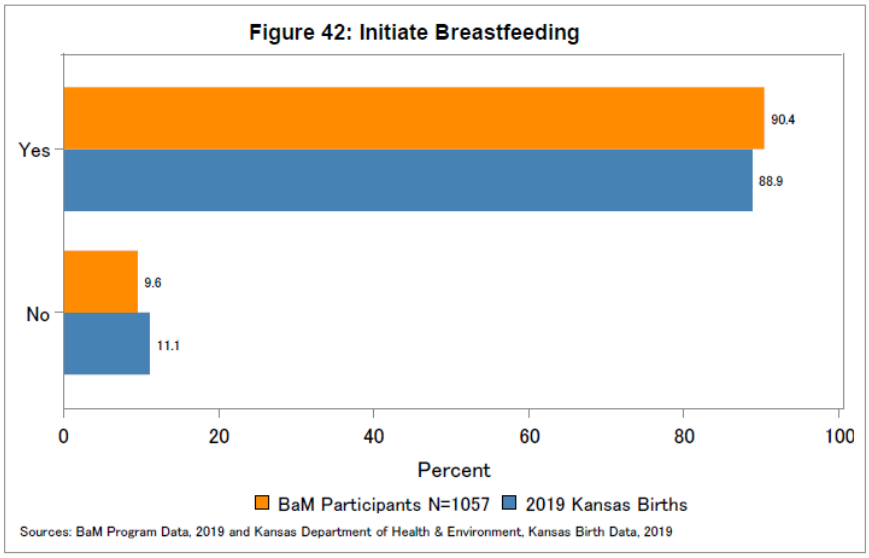


Figure 42: Initiate Breastfeeding
Yes
No
90.4
88.9
9.6
11.1
0
20
40
60
80
100
Percent
BaM Participants N=1057
2019 Kansas Births
Sources: BaM Program Data, 2019 and Kansas Department of Health & Environment, Kansas Birth Data, 2019

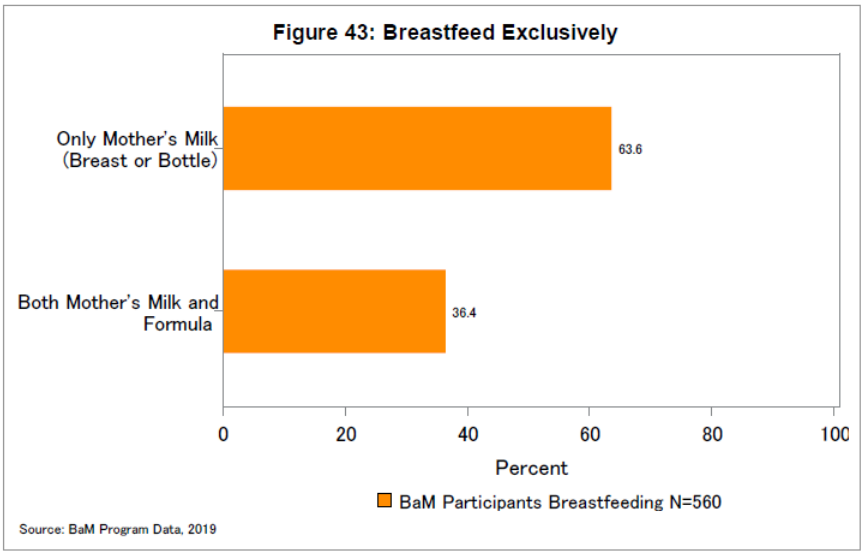


Figure 43: Breastfeed Exclusively
Only Mother's Milk (Breast or Bottle)
Both Mother's Milk and Formula
63.6
36.4
0
20
40
60
80
100
Percent
BaM Participants Breastfeeding N=560
Source: BaM Program Data, 2019

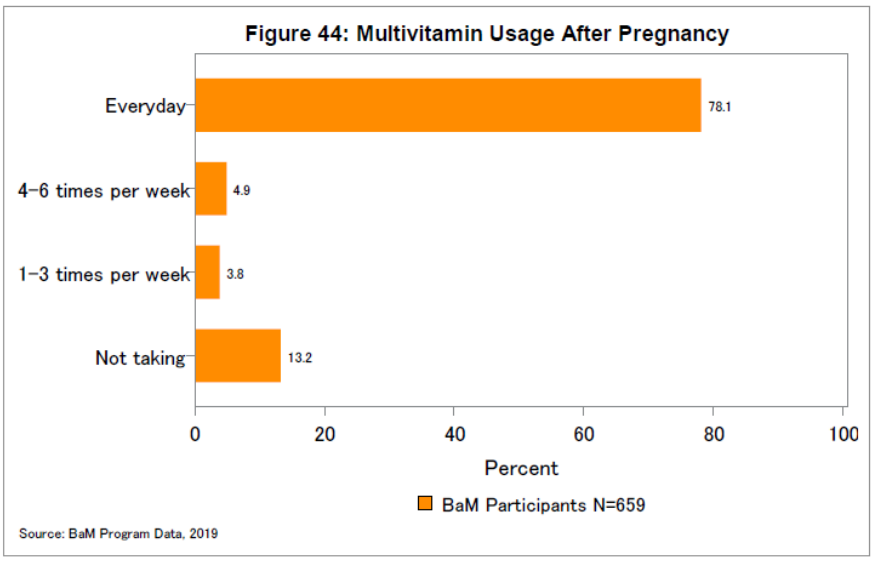


Figure 44: Multivitamin Usage After Pregnancy
Everyday
4–6 times per week
1–3 times per week
Not taking
78.1
4.9
3.8
13.2
0
20
40
60
80
100
Percent
BaM Participants N=659
Source: BaM Program Data, 2019

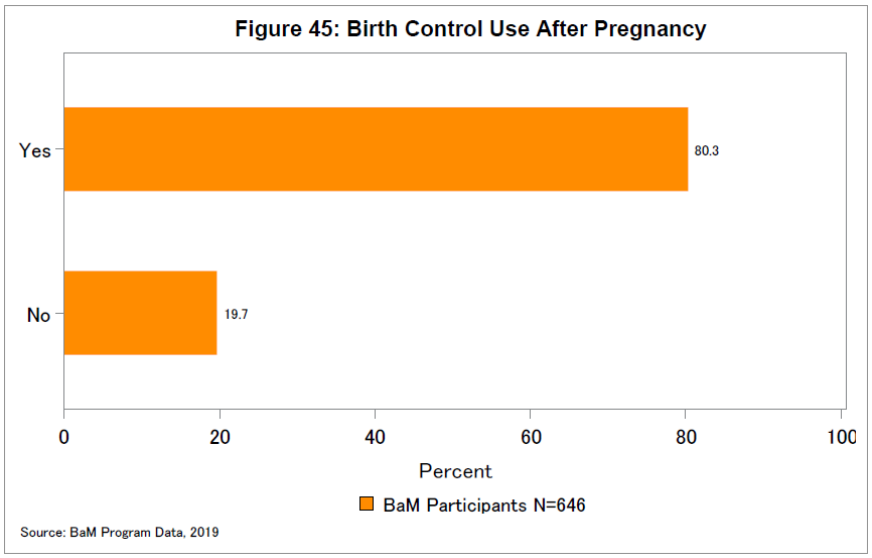


Figure 45: Birth Control Use After Pregnancy
Yes
No
80.3
19.7
0
20
40
60
80
100
Percent
BaM Participants N=646
Source: BaM Program Data, 2019

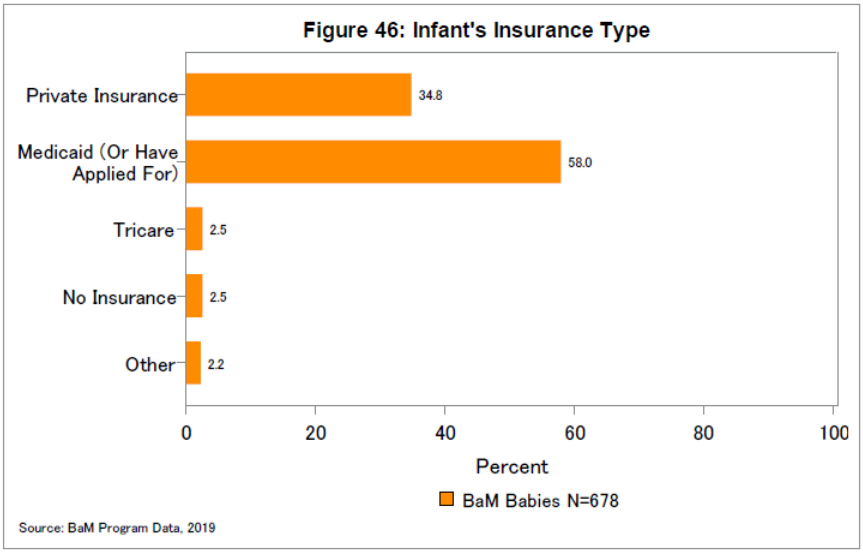
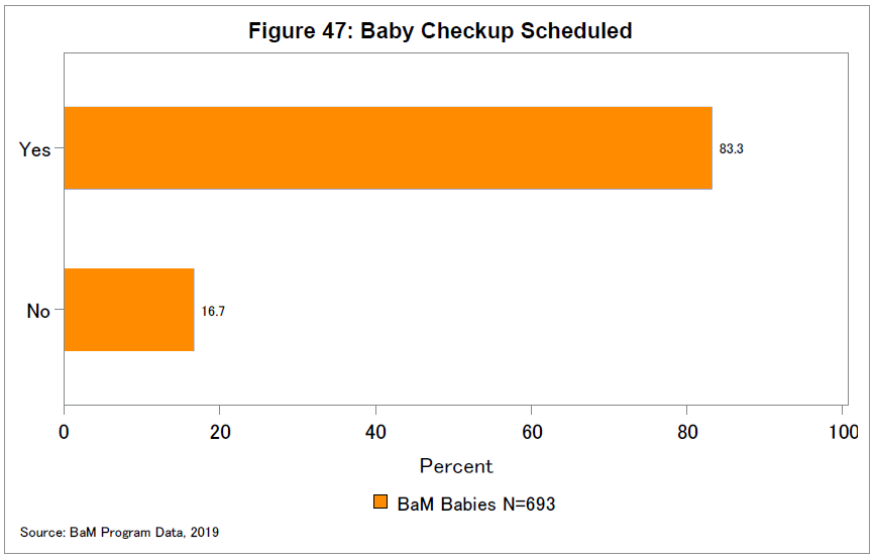
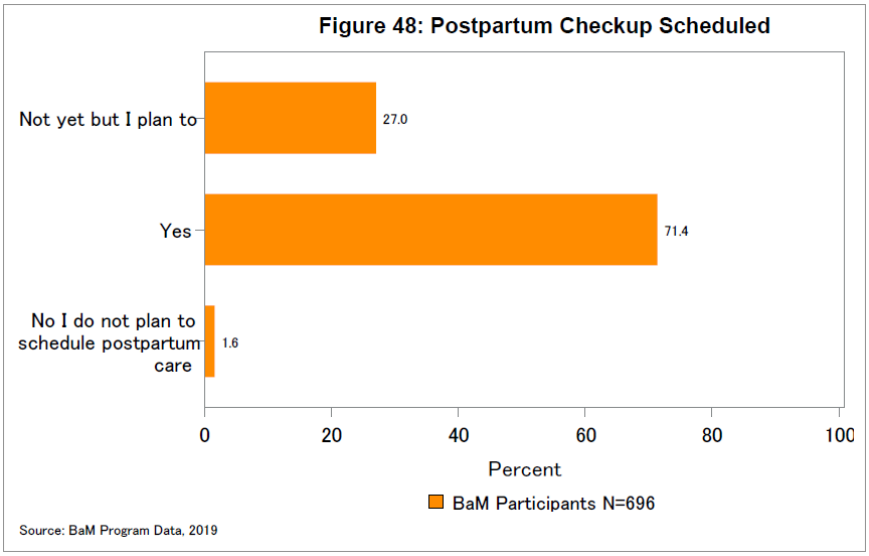


Figure 46: Infant's Insurance Type
Private Insurance
Medicaid (Or Have Applied For)
Tricare
No Insurance
Other
34.8
58.0
2.5
2.5
2.2
0
20
40
60
80
100
Percent
BaM Babies N=678
Source: BaM Program Data, 2019





Evaluation

Overall, the BaM/Cb participants rated their experience in the program positively, with 84.9% rating their experience as excellent (Figure 49). Participants also favorably evaluated the social support component (Figure 50 and Figure 51) and ease of understanding the material (Figure 52). Most participants reported they had learned “a lot” (76.0%) from the program (Figure 53). All six sessions were helpful; every session had more than 80% of the participants rate the session as “very” or “extremely” helpful (Table 4).

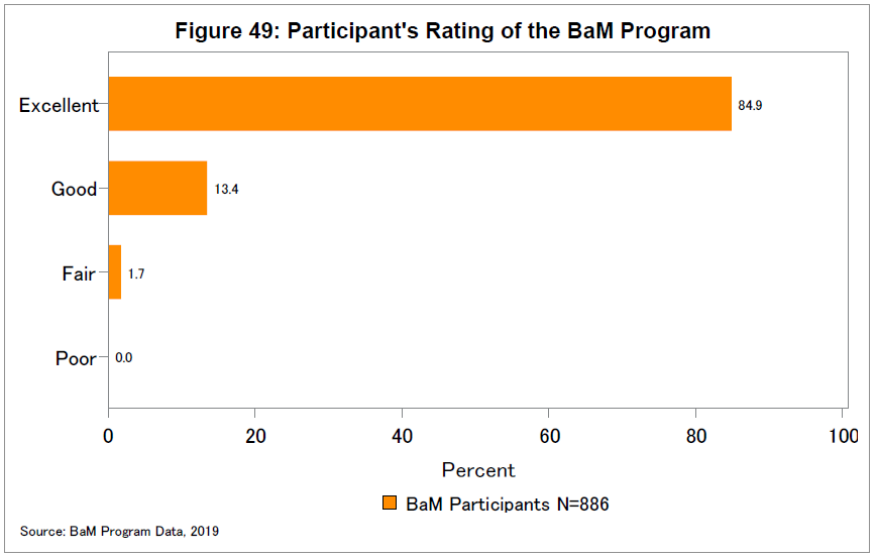


Figure 49: Participant's Rating of the BaM Program
Excellent
Good
Fair
Poor
84.9
13.4
1.7
0.0
0
20
40
60
80
100
Percent
BaM Participants N=886
Source: BaM Program Data, 2019

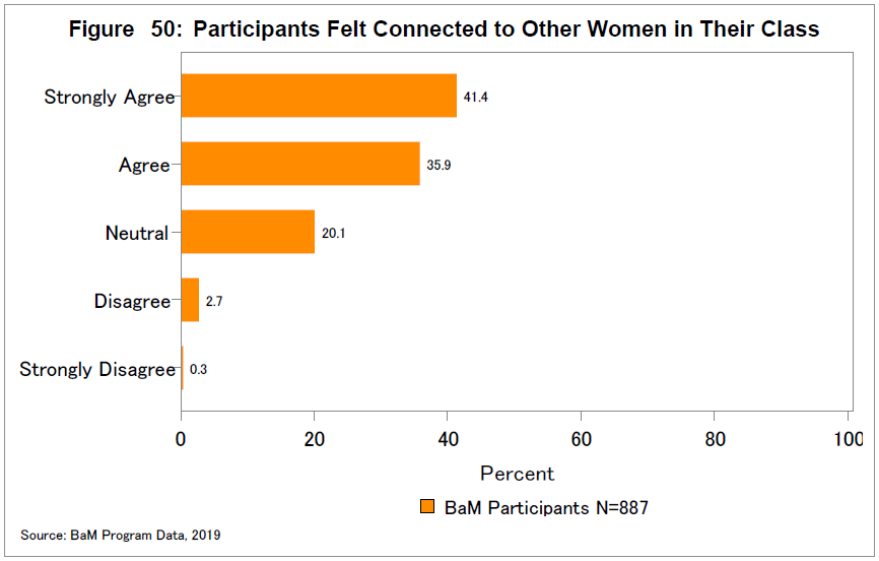


Figure 50: Participants Felt Connected to Other Women in Their Class
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
41.4
35.9
20.1
2.7
0.3
0
20
40
60
80
100
Percent
BaM Participants N=887
Source: BaM Program Data, 2019

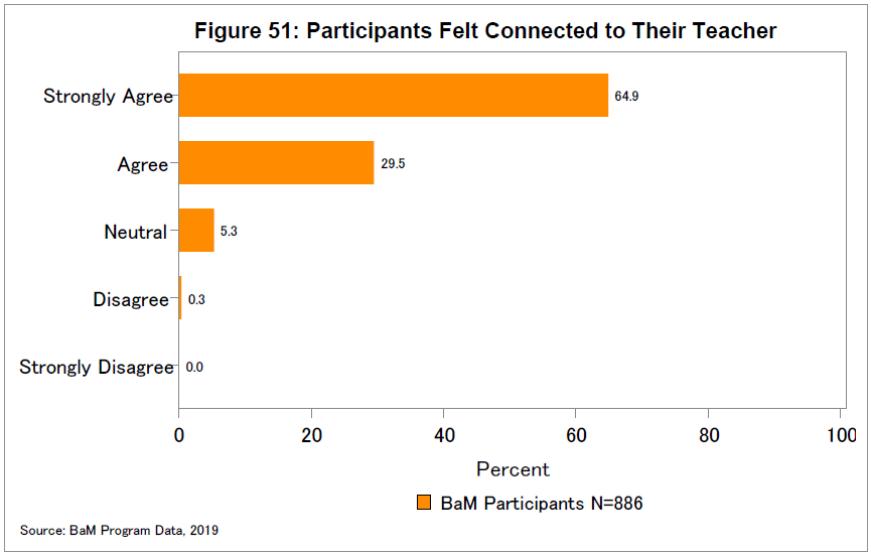


Figure 51: Participants Felt Connected to Their Teacher
Strongly Agree
Agree
Neutral
Disagree
Strongly Disagree
64.9
29.5
5.3
0.3
0.0
0
20
40
60
80
100
Percent
BaM Participants N=886
Source: BaM Program Data, 2019

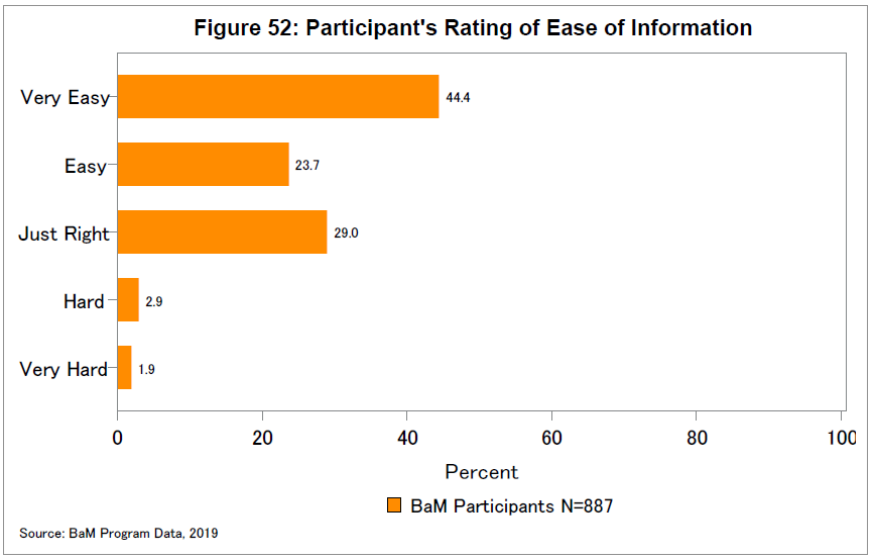


Figure 52: Participant's Rating of Ease of Information
Very Easy
Easy
Just Right
Hard
Very Hard
44.4
23.7
29.0
2.9
1.9
0
20
40
60
80
100
Percent
BaM Participants N=887
Source: BaM Program Data, 2019

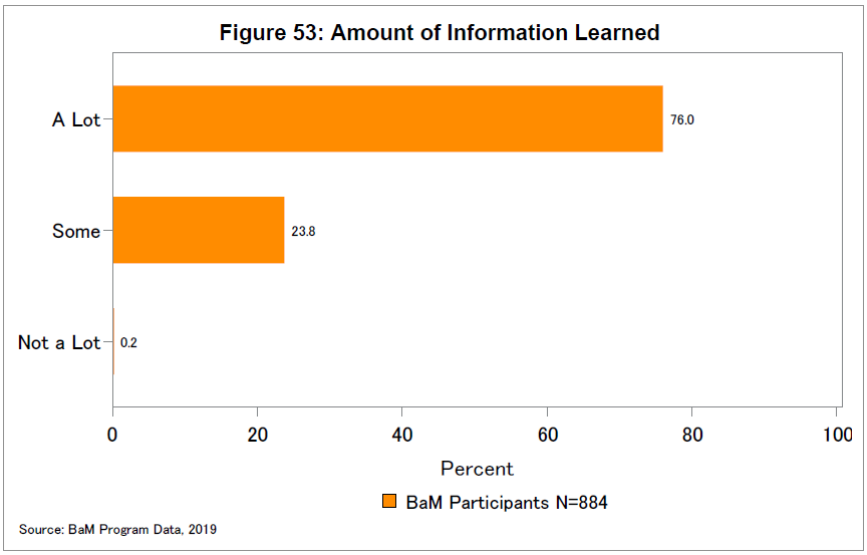


Figure 53: Amount of Information Learned
A Lot
Some
Not a Lot
76.0
23.8
0.2
0
20
40
60
80
100
Percent
BaM Participants N=884
Source: BaM Program Data, 2019

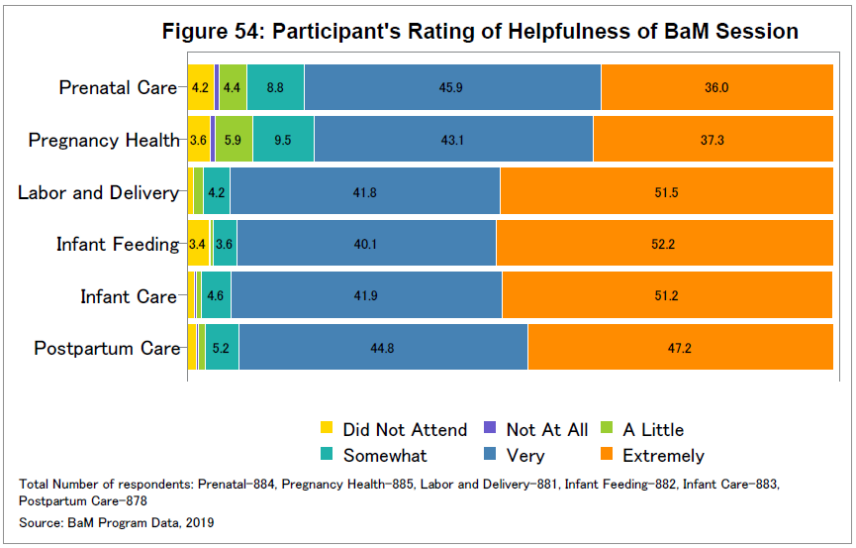


Figure 54: Participant's Rating of Helpfulness of BaM Session
Prenatal Care
Pregnancy Health
Labor and Delivery
Infant Feeding
Infant Care
Postpartum Care
4.2
4.4
8.8
45.9
36.0
3.6
5.9
9.5
43.1
37.3
4.2
41.8
51.5
3.4
3.6
40.1
52.2
4.6
41.9
51.2
5.2
44.8
47.2
Did Not Attend
Not At All
A Little
Somewhat
Very
Extremely
Total Number of respondents: Prenatal-884, Pregnancy Health-885, Labor and Delivery-881, Infant Feeding-882, Infant Care-883, Postpartum Care-878
Source: BaM Program Data, 2019

Table 4: Evaluation of the Becoming a Mom®/Comenzando bien® Sessions

Rating on the helpfulness of the session:						
	Not at all	**A little**	**Somewhat**	**Very**	**Extremely**	**Did not attend session**
	Percent (N)	**Percent (N)**	**Percent (N)**	**Percent (N)**	**Percent (N)**	**Percent (N)**
Prenatal Care	0.7% (6)	4.4% (39)	8.8% (78)	45.9% (406)	36.0% (318)	4.2% (37)
Pregnancy Health	0.7% (6)	5.9% (52)	9.5% (84)	43.1% (381)	37.3% (330)	3.6% (32)
Labor and Delivery	0.1% (1)	1.5% (13)	4.2% (37)	41.8% (368)	51.5% (454)	0.9% (8)
Infant Feeding	0.1% (1)	0.6% (5)	3.6% (32)	40.1% (351)	52.2% (460)	3.4% (30)
Infant Care	0.2% (2)	0.8% (7)	4.6% (41)	41.9% (370)	51.2% (452)	1.2% (11)
Postpartum Care	0.2% (2)	1.1% (10)	5.2% (46)	44.8% (393)	47.2% (414)	1.5% (13)
N is number of respondents						

Recommendations

The data analysis and evaluation design provide important measures for the Becoming a Mom®/Comenzando bien® (BaM/Cb) program and community collaborative model in Kansas. As with all program evaluations, there are opportunities for improvement. The evaluation team from the Kansas Department of Health and Environment (KDHE) has provided the following recommendations based on the results from 2019 data.

1. **Screening for Postpartum Depression:** Upon program intake, 18.0% of BaM/Cb participants reported depression/anxiety as a chronic health condition, while 11.7% resulted in a score indicating the need for brief intervention, treatment, or referral upon screening with the Edinburgh Postnatal Depression Scale (EPDS) during the program, and 24.4% report having contacted or planning to contact mental health services upon program completion.

   Recommendation 1.1: Sites should continue to screen, educate, refer and follow-up with participants utilizing the EPDS and associated Edinburgh Plan of Action, and entering these forms into DAISEY. Data validates the need for continued screening, education and referral for services. It is important to note that one of the largest sites (Sedgwick County – Baby Talk program) was not administering the EPDS to program participants during the reporting period, leaving many participants with an unknown EPDS score. This presents a potentially missed opportunity for referrals and a delay in timely intervention. However, since the conclusion of this reporting period, Sedgwick County began developing a screening process and local system of care. In 2020, following this recommendation in the 2018 report that was published Jan 2020, the Sedgwick County Perinatal Community Collaborative (Baby Talk) received technical assistance from Kansas Connecting Communities (KCC) related to the implementation of EPDS screening and establishing an adequate local system of care. Specific technical assistance needs included challenges to appropriately referring clients with positive screening results; privacy, efficacy, and practical considerations for screening in group settings (virtually or otherwise); and, the need for additional resources and staff comfort in introducing and discussing anxiety/depression

screenings in a non-clinical setting. State partnership with KCC will continue to be developed and TA will be provided to all willing and interested community collaboratives in the upcoming year.

2. **Behavioral Health Integration:** Evaluation shows significant changes in the beliefs or attitudes of BaM/Cb participants around depression/anxiety during and after pregnancy. A significant increase in the number of participants who report being very likely or likely to talk with their healthcare provider and/or access available resources, as well as significantly increased knowledge of mental health resources in their community pre-to-post program, demonstrates the true benefit of integration efforts that have been made by Kansas programs.

   Recommendation 2.1: State partners should continue to support local communities with expanded resources and increased training opportunities. Such efforts include continued integration efforts around mental health and behavioral health and working with KDHE and Wichita State University Community Engagement Institute (WSU CEI) to promote and expand practices and interventions to improve outcomes in this targeted area.

   Recommendation 2.2: In communities where screening is taking place, local program staff should be working with community partners to provide follow-up and assure women are not falling through the cracks once screened and referred. In communities where screening is not yet taking place, partners in the perinatal community collaboratives should be leading the way to implementation, assuring an adequate system of care is being built to appropriately care for women identified at risk. TA will be provided to all willing and interested collaborative communities in the upcoming year.

3. **Smoking During Pregnancy:** While 6.0% of participants reported being a smoker upon program intake, 6.5% have contacted or plan to contact smoking cessation services by program completion. More individuals reported deciding to contact smoking cessation services than reported smoking. This could be due to reluctance to admit smoking status.

   Recommendation 3.1: Continue to build integration efforts and partnerships around smoking cessation. Consider surveying current and former BaM/Cb participants who are smokers, as to what kind of services, support, and incentives might better encourage and support them in their cessation efforts.

   Recommendation 3.2: Reinvigorate locally provided cessation programs such as Baby and Me Tobacco Free (BMTF) and Smoking Cessation Reduction in Pregnancy Treatment (SCRIPT) with an emphasis on more direct targeting of pregnant women who present as smoking and utilization of new online apps and resources available.

   Recommendation 3.3: Strengthen partnerships with BaM/Cb participant prenatal care providers and among other perinatal community collaborative partners to assure training, screening and messaging around the importance of smoking cessation is consistent and strengthen referral and follow-up systems.

   Recommendation 3.4: Provide BaM/Cb sites with the newly released Kansas Tobacco Cessation Help (KaTCH) training to assist with these efforts.

   Recommendation 3.5: Begin utilizing data from the new data field added to the Birth Outcome evaluation form in January 2020 that gathers information about what type of smoking cessation

support was offered or provided during any prenatal care visits. Since only 6.0% report smoking, this data sample will be small, but should be informative of where gaps in services and supports continue to exist. Compare to equivalent PRAMS data.

4. **Supplemental Nutrition Program for Women, Infants and Children Participation (WIC):** Continue to support and monitor WIC participation rates.

   Recommendation 4.1: Consider follow-up integration training as needed by program sites. Local program staff should consider exporting DAISEY data to identify participants who are potentially income eligible for WIC and Medicaid who currently report not utilizing these resources, to assist in linkage with services. KDHE staff can provide additional TA support with these efforts if needed.

   Recommendation 4.2: Focus on Medicaid related integration efforts over the next year. KDHE will continue to work with Managed Care Organizations (MCOs) to create a streamlined direct referral process and consider coverage of transportation to BaM/Cb educational sessions as well as other rewards as part of their existing value-added services. Due to demands of the pandemic, change in Medicaid leadership and other competing priorities, little progress has been made in this area since the same recommendation was made in the 2018 report (released January 2020).

5. **Exercise and Nutrition:** Attitudes about physical fitness and prenatal nutrition remained largely unchanged in 2019. Other approaches to educate participants should be explored.

   Recommendation 5.1: KDHE will seek program site feedback on utilization of the "Pregnancy Exercise and Nutrition Program" (PEP) content and barriers to implementation in an effort to better identify needs and how KDHE can assist. Seeking participant feedback in this topic area by local program staff is recommended to identify what will truly motivate participants to make greater positive change in this area.

   Recommendation 5.2: KDHE should consider a possible pilot program based on key findings from participant feedback. Identifying useful/beneficial resources for participants is key in reducing complications and risk factors for developing diabetes and high blood pressure later in life, especially considering these are the two highest reported complications by BaM/Cb participants.

6. **Data Linkages and Access:** Compared to the 2019 Kansas births, the 2019 BaM/Cb preterm birth rate was just under half (4.4%) that of the state (10.1%) (significantly lower), but the low birthweight rate was about the same (6.9%) as the state (7.6%) (not statistically different). However, the rate did surpass Healthy People 2020 goals. This is the second year where the report has linked BaM/Cb birth outcome data with vital records for the same year as the report period. One limitation of this approach is that the release of vital statistics data is variable and dependent on many factors outside the control of KDHE's Office of Vital Statistics. More discussion is necessary to understand what data the Office of Vital Statistics can release for reporting purposes to help facilitate access to the most up-to-date information in a timely manner.

   Recommendation 6.1: One potential solution could be a **preliminary data cut for use before data is returned from the federal government**, but more discussion and strategizing are needed. Due to the extra demands on all staff related to the pandemic, these discussions were not able to occur in the past year.

Recommendation 6.2: Work should be done by local programs to **improve avenues for collecting the outcome data from participants**, including use of electronically fillable forms for ease of completion and submission following program completion and birth.

Recommendation 6.3: In addition**, further collaboration should be pursued with the Office of Vital Statistics Data Analysis to further develop and utilize linked BaM/Cb participant data to vital records**: birth, stillbirth, infant death. While initial linkage of live births has occurred for the 2018 and 2019 reporting periods, more work can be done. Conversations will continue to be explored in other areas of linkage.

7. **Induced and Cesarean Deliveries:** The induction rate among BaM/Cb participants (41.1%) was significantly higher than the 2019 Kansas Births (36.9%) while the rates for cesarean deliveries was slightly lower for BaM/Cb (28.3%) and the State overall (29.7%). Of the BaM/Cb inductions reported in the linked dataset, 20.4% were also reported as elective. For the participants who reported cesarean delivery on their outcome card, the majority (93.8%) reported it as medically necessary. While linkage improved the overall rate by filling in missing or misreported information, there still exists a gap between the State and BaM/Cb participants related to induced deliveries. More work is needed to assess data quality and reporting, overall.

   Recommendation 7.1: Education may be needed to reduce misreporting by BaM mothers. **KDHE will identify sites with high elective induction and elective cesarean delivery rates; further investigate data** to compare with gestational age, complications, etc. to look for any trends or explanations; continue to monitor rates in the next year; consider assisting with possible local focus groups in identified locations.
   Recommendation 7.2: Local program staff should continue to focus on curriculum delivery to discourage elective inductions prior to 39 weeks and elective cesarean delivery; assure showing of brief video clip "Is It Worth It" that was embedded in the session three PowerPoint during the 2017 relaunch; discuss trends with perinatal community collaborative partners; consider participating in above mentioned focus groups.

8. **Health Disparities:** While participants were more likely to be of racial/ethnic minorities, especially Hispanic and non-Hispanic Black mothers and low-income, it is important to continue to ensure outreach efforts, class content, instructors and community partners are reflective of these target communities.

   Recommendation 8.1: Although demographics of BaM/Cb participants shows an improved reach across disparity groups, **state technical assistance and integration efforts as well as local collaborative and recruitment efforts should continue to focus on recruitment of the Medicaid and uninsured populations, minority groups, and lower education populations**, to better reach the targeted higher risk populations the program is aimed at, further driving the rate of improvement in outcomes.

9. **Breastfeeding Support:** While BaM/Cb outcome data demonstrates sites are highly successful in educating, encouraging and supporting participants to initiate breastfeeding and breastfeed exclusively, more can be done to support exclusivity and duration rates. Timing of completion of the outcome survey varies. Participants can report an outcome at any given time when they return to the participant location and complete the form. In January 2020, a field for collecting the baby's date of birth was added to the outcome form to enable calculation of the baby's age at time of completion. Fields were also added to the BaM Service Form to capture follow-up contact made with participants who are breastfeeding following the birth of their baby, at

targeted time frames when rates of early weaning increase statistically, in an effort to improve breastfeeding duration throughout these difficult times in the early postpartum period.

Recommendation 9.1: Moving forward, evaluation efforts should include this new data so we can begin to better understand the timeframe when early weaning is occurring and contributing factors.

10. **Program Enrollment:** About one in five (21.7%) BaM/Cb participants enter the program in their third trimester, while 1st through 2nd trimester are recommended points of entry.

    Recommendation 10.1: Although this is an improvement from 2018, **recruitment efforts across BaM/Cb sites should include targeted 1st and 2nd trimester enrollment to encourage earlier provider referral and entry of pregnant women into the program for more timely education.**

11. **Maternal Warning Signs:** Several data points are currently compiled for sites in a BaM participant risk report, which provides easy access to the data identifying the most at-risk participants. KDHE has requested that the DAISEY team add data fields into this report that also identify high-risk infants following birth (BaM data indicates one in nine [11.4%] babies had a medical condition that required NICU admission), as well as identifying risk factors for the participant that should be followed during the postpartum period. BaM data shows the most commonly reported pregnancy complication is high blood pressure/Pre-eclampsia (34.5%) followed closely by gestational diabetes (33.0%). This data validates recommendations by the Kansas Maternal Mortality Review Committee, where findings indicate chronic health conditions and complications of pregnancy are among the top three causes of maternal mortality in our state.

    Recommendation 11.1: In support of these efforts**, the AWHONN Post-Birth Warning Signs Toolkit is recommended for integration into the BaM program and at state-wide MCH programming level.** Work is underway for the kick-off of this initiative, July 1, 2021. **KPPCs are also encouraged to participate in the Kansas Perinatal Quality Collaborative and the Fourth Trimester Initiative.**

12. **Preterm Labor Education:** While participants continue to show a significant decrease in identifying "call healthcare provider right away" as a correct response to "I should do the following if I'm experiencing preterm labor", the number of correct responses has improved over previous years following changing of educational components on this topic.

    Recommendation 12.1: Education efforts should continue to be improved by seeking input from sites on recommended changes. A deep dive into this data is recommended as well, to determine any trends among incorrect responses. Additionally, wording to this response option was adapted with the January 2021 evaluation form updates, per provider recommendation.

13. Social Determinants Screening: 4% of participants report they plan to or have contacted domestic violence services, and 6% report the same for both substance abuse and tobacco cessation services.

    Recommendation 13.1: Incorporate screening tools in these two areas. This should be done in a fashion consistent with integration of these screenings in other MCH programs supported by KDHE. Integration planning with KDHE's Behavioral Health Consultant is slated to begin February 2021.

Additional Recommendations for Programs:

Recommendation 14.1: Program sites are encouraged to assess and consider recommendations made by program participants via the "additional feedback" portion of the Completion Survey. Most of these are site specific and therefore will not be presented in this aggregate report but could bring value to individual programs. Additionally, KDHE will assess for any common themes across program sites that could be addressed at a higher state level.

Recommendation 14.2: Sites are encouraged to continue focusing on "family/consumer engagement" in SFY2021-2022, including BaM/Cb participant/alumni representation on advisory boards, maternal and child health councils, perinatal collaboratives, etc. to gather feedback and input on the program from the consumers themselves. **State efforts, as outlined and developed through the State Action Plan, should be integrated into the BaM model.** Remember the saying "nothing about us, without us".

Recommendation 14.3: Overall the BaM/Cb program was rated very highly and the information was reported as easy to understand**. Continue effective delivery of program materials with improvements incorporated as described and recommended, above.** KDHE curriculum standardization and enhancement efforts including supplemental curriculum handouts, PowerPoints, lesson plans, and activity plans have been completed. **Sites are encouraged to communicate suggested edits to KDHE for incorporation in the July 2021 updates.**

References

1. KDHE Vital Statistics Summary; Health Statistics 2019. Available at: https://www.kdheks.gov/phi/AS_Tables/AS_2019_Tables_and_Figures/live_births/2019_A42.pdf [accessed November 16, 2020].

2. US Department of Health and Human Services. Office of Disease Prevention and Health Promotion. Healthy People 2020. Available at: https://www.healthypeople.gov/2020/data-search/Search-the-Data#topic-area=3492 [accessed January 25, 2017].

Appendix A: Program Background and History

Introduction

In Kansas, and across the United States, the primary causes for infant mortality following congenital anomalies is premature birth and low birthweight, Sudden Unexplained Infant Death (SUID), and maternal factors and complications.[1] These rates continue to be significantly affected by racial, ethnic, socioeconomic, and geographic disparities. In response, the Kansas Maternal and Child Health Council (KMCHC) supports the original recommendations by the Kansas Blue Ribbon Panel on Infant Mortality (est. 2009) to include the March of Dimes Becoming a Mom® (BaM)/Comenzando bien® (Cb) Birth Disparities program as an initiative to help address these issues. Implementation of the BaM/Cb bilingual prenatal curriculum in other states has shown an increase in adequate prenatal care and prenatal health knowledge improving health behaviors and birth outcomes (March of Dimes California Chapter, Evaluation of Becoming a Mom, Sept. 2013). To date, Kansas has found similar outcomes among program participants across the state.

Kansas' Perinatal Community Collaborative Model

In 2010, following the release of the Kansas Blue Ribbon Panel recommendations, coupled with cuts in state and local funding, the March of Dimes (MOD) Greater Kansas Chapter partnered with state and local public health partners to create an innovative concept. This concept included a perinatal community collaborative education model utilizing the Becoming a Mom®/Comenzando bien® curriculum to address birth disparities primarily among low-income, minority women who are eligible for Medicaid. Starting with a pilot program in Salina, Kansas (Saline County), the model has a two-fold focus of clinical services and prenatal education that is driven by private and public partnerships across the state and local level including: Title V Maternal & Child Health (MCH), Medicaid, local public health departments, federally qualified health centers, clinical providers, hospitals, and health foundations. The community collaborative model brings permanent MCH infrastructure, leveraged and shared resources, change in the prenatal care delivery services paradigm, a vehicle to identify community needs, a standardized evaluation system, and new funding opportunities for community collective impact, and improved birth outcomes.

Statewide Expansion

This innovative model was first replicated in Junction City, Kansas (Geary County), in 2012 with the similar preliminary successes of the pilot program. With two effective sites implementing the model, program evaluation tools were refined and standardized in 2013 in partnership with evaluators from the University of Kansas School of Medicine-Wichita and Wichita State University. Preliminary data reports showed improvements in participant's knowledge, behaviors, and growth of community partnerships and shared resources.

In 2014, the Kansas Department of Health and Environment (KDHE) committed to partner with the March of Dimes for further expansion of the model across the state, as well as securing long-term sustainability of the program by integrating it into Title V MCH services. This model has become known as the Kansas Perinatal Community Collaboratives (KPCC) utilizing the March of Dimes Becoming a Mom® curriculum and has since been being replicated across the state. Three additional sites were brought on in 2014, including: Crawford County in southeast Kansas and Wyandotte County and Riley County, both in northeast Kansas. Amerigroup (WellPoint), one of Kansas' three Medicaid (KanCare) Managed Care Organizations (MCOs), joined as a partner and investor in 2014. In January of 2015, two new sites were launched. These two sites included Reno County and Newman Regional Health Center (Lyon County), located in central Kansas. In late 2015 (November), three additional sites launched between north and

southcentral Kansas. These sites included: Clay County, Dickinson County, and Sedgwick County (led by KU School of Medicine in Wichita). In October 2016, the eleventh program site was launched in Montgomery County in the southeast corner of the state. This site was launched with support and partnership from a neighboring program in Crawford County. In October 2017, the twelfth program site was launched in Shawnee County, home of our state capital in northeast Kansas. In 2018, four more sites were launched, including Kearny County Hospital (January), Finney County Health Department (February), Seward County Health Department (May), and Thomas County (October 2018). These counties are all located in the western part of the state and were established as the state's first Regional launch. Ford County, in southwest Kansas, continued to partner regionally with other lead sites in the region while working to launch their own local program in 2019. Additionally, in 2018, following the piloting of a virtual implementation model between Saline County and Lincoln County, Lincoln County launched as a lead site. Although this site is extremely small, they expressed the capacity and desire to host live sessions locally, which provides a great resource in this rural area. Expansion work included hosting two implementation trainings in southwest Kansas in July 2016, where work began to develop and launch the first regional KPCC model in the state, as mentioned above. This regional approach in the southwestern part of the state includes 16 counties. Lead program sites are located in the four counties with the region's largest birthing hospitals (per reported birth numbers), in partnership with outlying counties referring into these lead sites. Additional opportunity is available for such counties to provide the program locally via virtual connection with one of the lead sites, if the need exists and capacity is available. Pilot of this virtual approach occurred in northcentral Kansas, as mentioned above, and a toolkit on *Virtual Implementation* has since been developed and made available. Other expansion efforts include utilizing the Title V MCH Aid-to-Local application as an opportunity for inquiring about the applicant's interest in implementation of the KPCC model / BaM/Cb program. As interest is voiced in the application or by other means, KDHE staff reach out to the interested parties and provide linkage to the KPCC website. Via the website, communities can begin self-exploration of the model and criteria, and navigation through convening of collaborative partners, building of the collaborative structure, and implementation of the BaM/Cb prenatal education component. Current expansion planning also involves prioritizing locations for program implementation based on birth disparities, interest by the community and will to collaborate, and lack of MCH services of this nature in the area.

Program Enhancements

Training and Support

Technical assistance, training, evaluation support, and infrastructure development has continued to be enhanced through the March of Dimes and KDHE partnership. Through August 2015, March of Dimes led state coordination efforts including program implementation trainings and technical assistance support. In April 2015, KDHE increased their investment by hiring a Perinatal/Infant Health Consultant to support these efforts and take on the role of state coordination, with the intention of expanding and building long-term sustainability of the Becoming a Mom® (BaM)/Comenzando bien® (Cb) program and the Kansas Perinatal Community Collaborative (KPCC) model. Part of such long-term sustainability efforts have included the development of two websites. One website is a public website housing resources on Collective Impact and the KPCC model. The other website is a private website for committed BaM/Cb programs, housing training and other implementation resources.

Integration of state and local resources has been another focused enhancement to the program since 2015. Led by the March of Dimes investment in the Saline County program as a pilot site, along with the support of KDHE staff, 2015 was spent developing and piloting an integration plan for all BaM/Cb program sites in Kansas. This plan specifically targeted the integration of state entities such as Kansas Tobacco Quitline (KanQuit), WIC, Kansas Breastfeeding Coalition (KBC), and the Kansas Infant Death and SIDS (KIDS) Network. This integration included redesign of the infant feeding session (session 4), including the

incorporation of an evidence-based, breastfeeding-focused curriculum. Along with this, a BaM/WIC integration plan streamlined enrollment in both programs from the other program, while incentivizing dual participation in programs. It included the development of a toolkit focused on the integration of tobacco cessation services, that includes standardized screening, referral, resources, and follow-up. Additionally, all sites were trained in implementing the nationally recognized, evidence-based "Baby and Me Tobacco Free" program. Following a year-long pilot of the program in the state, an additional intervention was implemented utilizing another nationally recognized evidence-based program known as SCRIPT®. Updating and standardization of the safe sleep/SIDS risk reduction message as a part of the infant care session (session 5) was another focus area, as well as the development of a standardized process for screening, resources, referral, and follow-up related to mental health. Training of all ten sites (at the time) on these integration components began in November 2015 and was completed in February 2016. In July 2017 training was again provided to all program sites, providing updates on previously integrated components, as well as providing training on new integration components including oral health (in partnership with Oral Health Kansas) and a pregnancy exercise and nutrition program (PEP - in collaboration with KU School of Medicine, Wichita). With launch of the private website, training on all integration components has been made available to all program sites on an ongoing basis via recorded training webinars. Work on the integration of services has continued throughout the years and will continue throughout the life of the program due to KDHE's commitment to these efforts. Integration components currently under development include: Pre and Early Term Birth Risk Reduction (focus on appropriate utilization of progesterone and low-dose aspirin); Screening, Brief Intervention, and Referral to Treatment (SBIRT) and Neonatal Abstinence Syndrome (NAS); Reproductive Life Plan including the *One Key Question* initiative; and Severe Maternal Morbidity and Maternal Mortality Risk Reduction. Through enhanced outreach, health education, public awareness, and increased referral services available to the program's participants, we aim to continually drive the improvement of birth outcomes in our state.

Curriculum Standardization

In addition to the integration efforts outlined above, extensive work was done in late 2016 and early 2017 to enhance the original Becoming a Mom® curriculum developed and owned by MOD. This enhancement work included the addition of standardized supplemental handouts identified as needed topic content to fill gaps in education around a number of key priority areas. This work was led by KDHE, in partnership with a curriculum review committee initiated by the KU School of Medicine - Wichita (Sedgwick County program) and input from multiple local BaM/Cb programs. Support by MOD has provided guidance around this work in adherence to copyright laws protecting the original curriculum and Becoming a Mom® logo. Printing of the curriculum for all Kansas program participants in 2017 and again in 2019 was provided thanks to partnership and financial investment from Sunflower Health Plan, another one of Kansas' three managed care organizations. Additional infrastructure support occurred throughout 2017 with the development of standardized PowerPoints, lesson and activity plans, and recommended resource documents, to be used during BaM/Cb sessions across all Kansas program sites in an effort to improve program fidelity. These materials are the product of a partnership between KU School of Medicine – Wichita (Sedgwick County) and KDHE. Additional infrastructure support continues with the ongoing buildout and enhancement of a KDHE sponsored public website for Kansas Perinatal Community Collaboratives (KPCC) and a private website for BaM/Cb implementation, as mentioned above.

Program Evaluation

Another area of focused enhancement over the past years has been the evaluation component of the program. In the early years of program existence, there had been concern related to the value of results from program evaluation tools. It had appeared that perhaps the way some questions had been asked was either confusing to participants, or leading. As well, there had been several questions where there was not a statistically significant difference between pre and post survey results. In May 2015, KDHE

contracted with the University of Kansas Center for Public Partnerships and Research (KU-CPPR) to conduct analysis on the pre- and post-program survey instruments. A brief discussion of the statistical analysis methodology and results is included in the next section of this appendix, for a historical perspective on this process. As a result, evaluation tools were redesigned by the joint effort of KU-CPPR, KDHE, and MOD. These evaluation tools were built into the new data system "DAISEY", utilized by KDHE for data collection of Bureau of Family Health – Aid-to-Local programs, and is supported and maintained by KU-CPPR staff. DAISEY provides a single secure place for KDHE funded Family Health programs to enter all data required for state and federal reporting. DAISEY is a shared measurement system designed by social scientists to help communities see the difference they are making in the lives of at-risk children, youth, and families. It has been exciting to have the opportunity we have had to be included in the use of this new system as a part of our evaluation efforts for the BaM/Cb program. This system gives confidence in the sustainability of the program long term. BaM/Cb programs began as the first pilot sites for DAISEY, with the input of program data from new program participants as of November 1, 2015. Now well into utilization of the new evaluation tools and data system, program staff are seeing the benefit of data collection in real time via this web-based system. The "BaM/Cb Report" was developed by KDHE and KU-CPPR teams and made available to sites through the DAISEY live environment in August 2016. The report's intention is to allow BaM/Cb program staff to track and evaluate participants' enrollment, session completion, form completion, program completion and identified risk factors and referrals, in an easy-to-use and meaningful way. The KDHE and KU-CPPR teams continue to collaborate with local BaM/Cb sites to support continuous data quality improvement efforts. In 2019 KDHE began working with KU-CPPR to create the BaM-DAISEY Dashboard, which will ultimately display data trends of key program measures on a quarterly basis, promoting real-time analysis and response. The vision behind these efforts is for high quality BaM/Cb data to be used in Title V MCH operations, decision making and planning, as well as by KPCCs for service planning and development at the local level across partnerships.

Factor Analysis of Pre- and Post-Program Survey Instruments

To examine the properties of the surveys and the characteristics of the items, item analysis and reliability analysis were performed by the University of Kansas Center for Public Partnerships and Research (KU-CPPR). Also, to explore the dimensions of knowledge about pregnancy, principle component analysis (PCA) was conducted. The efficacy of the program was evaluated by comparing participants' performance on pre- and post-program surveys using repeated measures multivariate analysis of variance (MANOVA). Before performing all planned analyses, items were scored dichotomously based on participants' responses, with "1" representing a correct answer and "0" representing an incorrect answer or response of "I don't know".

Item analysis was conducted to examine the difficulty and discrimination of items. Operationally, item difficulty was defined as the proportion of participants who answered a given item correctly, and discrimination as the point-biserial correlation between participants' scores on a given item and the total scores on the survey. A negative discrimination score suggests participants who answered the item incorrectly obtained a high total score. A low discrimination score (item-total correlation less than .20) indicates participants' performance on the item did not significantly impact their overall performance on the survey. Items that met either of these criteria were removed from further analyses. After item analyses, 13 items were removed due to either negative or low discrimination scores.

The internal consistency among the remaining 26 items was examined by calculating Cronbach's α coefficient. A Cronbach's α coefficient of .834 indicated a good internal consistency of the pre-program survey scores.

Principle component analysis (PCA) was chosen over exploratory factor analysis for two reasons. First, knowledge on pregnancy was considered a domain of study rather than an unobserved theoretical

construct. Therefore, the primary focuses were on information summary and item/dimension reduction. Second, after reducing a pool of items into a small number of components, the components could be used as core domains to further evaluate the efficacy of the program in improving participants' knowledge.

Kaiser-Myer-Olkin test (KMO) and Bartlett's test of sphericity were run in order to determine the appropriateness of using PCA. Items were retained based on the magnitude of their "factor loadings" and if they theoretically made sense. Items with a factor loading of 0.40 or greater were retained. Since the survey was designed to assess participants' knowledge within six domains: healthy living during pregnancy, pregnancy, labor and pain management, infant feeding, infant care, and postpartum care; in PCA, the number of components to yield was fixed to six.

The six components that emerged from pre-program survey responses were named as: Pregnancy health, Post-pregnancy health, Pre-term labor, Pre-term labor response, Normal post-partum, and Abnormal post-partum. While these were not the original hypothesized "factors", they did make sense in accordance with topics covered in the BaM program. To examine the consistency and stability of the obtained component structure, a PCA was also run on the post-program survey data. PCA failed to confirm the component structure of the survey. Therefore, the validity of the survey construct is suspect and fails to measure accurate post-intervention results.

McNemar Test

For the change in knowledge questions in Table 2, a McNemar test was used to test the change in proportions.

Outcomes Worth Noting

In review of outcome findings noted in the Outcomes section of the report, please call attention to the improvements in outcomes over state level data and Healthy People 2020 goals, particularly related to breastfeeding initiation rates (Figure 40). The reported preterm birth rate (<37 weeks) was 4.4% for program births for 2019 and 6.4% rolling average for years 2017-2019. These were significantly lower than the state rates of 10.1% and 9.7%, respectively. We would also like to make special note of the improvement in Infant Mortality Rate (IMR) per 1,000 live births (5-year average) from pre-implementation to post implementation in the counties of our two longest running Becoming a Mom® sites. IMR in these two counties has significantly decreased since the inception of local perinatal community collaboratives. The Saline County IMR decreased significantly from 10.1 (95% CI 7.2-13.7) in 2005-2009 to 5.9 (95% CI 3.6-9.1) in 2015-2019. The Geary County IMR decreased significantly from 11.9 (95% CI 8.6-16.0) in 2005-2009 to 5.2 (95% CI 3.4-7.7) in 2015-2019.

Infant Mortality Rate[1]	Geary Collaborative (established July 2012)	Saline Collaborative (established Jan 2010)
2005-2009	11.9 (8.6-16.0)	9.0 (6.3-12.3)
2015-2019	5.2 (3.4-7.7)	5.9 (3.6-9.1
Preterm Birth Rate (<37 Weeks)	**All Community Collaborative[2]**	**Kansas/State[1]**
2017-2019	6.4%	9.7%

1 Source: Bureau of Epidemiology and Public Health Informatics,
2 Source: KDHE, Bureau of Family Health

Appendix B: Survey Questions

Pre/Post Questions

Before the launch of DAISEY, the program utilized de-identified pre and post-survey instruments to evaluate participant responses to the educational intervention. The curriculum and questions were designed to assess knowledge of risks of pregnancy and current and future behaviors. Pregnant persons indicated their response to 5-point Likert scales, yes/no, multiple choice, single choice, and fill-in-the-blank questions based on their current understanding (unassisted). The survey was comprised of thirty-seven main items with multiple sub-questions. Three (3) questions were demographic questions used to describe the population. The post-survey also included questions on participant's experience in the program.

With the launch of DAISEY in November 2015, pre and post-survey instruments, as well as the outcome survey, were revised. In addition, demographic data fields were pulled out of the original surveys and placed on a separate program visit form in DAISEY, which collects demographic data consistently across KDHE MCH programs. The newly revised evaluation tools consist of the following questions and response types, as displayed below.

Visit Form

The DAISEY KDHE Program Visit Form with Profile collects the following demographic data:

Question	Type*
Primary Healthcare Coverage	SC
Secondary Healthcare Coverage	SC
Has the client had a well visit during the last 12 months?	SC
Does the client have a special healthcare need or disability?	Y/N
Does the client care for any children who have special healthcare needs or disabilities?	Y/N
Household Size	FB
Annual Household Income	FB
Annual Household Income	SC
Education Level	SC
Current Student	SC
Employment	SC
Marital Status	SC
Date of Birth	FB
Sex	SC
Race	MC
Ethnicity	SC
Primary Language	SC
Limited English Proficiency	Y/N
*Type of Answer Choices: FB: Fill-in-Blank MC: Multiple Choice SC: Single Choice Y/N: Yes and No (and Don't Know)	

Pre-Survey

The pre-survey in DAISEY includes the following knowledge and behavior questions and response types:

Question	Type*
How did you first hear about Becoming a Mom/Comenzando bien?	SC
Is this your first pregnancy?	Y/N
If no, have you had a premature birth (gestational age of baby less than 37 weeks)?	Y/N
If yes, was the premature birth spontaneous, meaning you went into labor on your own?	Y/N
How many babies have you had weighing less than 5 lbs. 8 oz.?	FB
How many miscarriages have you had?	FB
Have you had a baby that was not born alive?	Y/N
Have you had a baby that died within the 1st year?	Y/N
Do you have any other children living in the home?	Y/N
If yes, Indicate the number of children in the home less than 1 yr old	FB
If yes, Indicate the number of children in the home age 1 to 11 yrs old	FB
If yes, Indicate the number of children in the home age 12 to 22 yrs old	FB
Number of these children who have Special Health Care Needs:	FB
How pregnant are you now?	SC
When is your due date?	FB
Have you had your first prenatal appointment?	Y/N
If no, is your appointment scheduled?	Y/N
If no, what is the reason for no prenatal appointment?	SC
What trimester did you begin seeing a healthcare provider for this pregnancy?	SC
What is the name of your healthcare provider/clinic?	FB
Do you have any of the following health problems?	MC
If you have a health problem not listed, please explain:	FB
Has your healthcare provider told you that you have a “high risk” pregnancy?	Y/N
If yes, please indicate the reason(s).	FB
Are you enrolled in the WIC Program?	Y/N
I attend scheduled prenatal care visits with my healthcare provider (Doctor or Nurse Midwife):	SC
The following sometimes prevents me from attending my prenatal appointments:	MC
Please specify “other” barrier(s) to attending prenatal appointments:	FB
I currently take prenatal or multi-vitamins containing folic acid:	SC
Which of the following are signs of preterm labor/labor?	MC
I should do the following if I’m experiencing preterm labor (before 37 weeks):	MC
The following postpartum symptoms are normal for a mother to experience after delivery:	MC
If I experience depression and/or anxiety during or after my pregnancy, I am ___ about available resources in my community.	SC
If I experience depression and/or anxiety during or after my pregnancy, I am ___ to talk with my healthcare provider and/or access available resources:	SC
I have talked to my healthcare provider about medications that I’m taking (prescription and/or over the counter, herbal, etc.):	SC
If I am considering taking medications (prescription and/or over the counter, herbal, etc.), I am _____to talk to my healthcare provider before taking them.	SC
I walk or do at least 30 minutes of moderate, low-impact physical activity _____ days per week.	SC
I currently smoke _____ cigarettes per day.	SC
I believe I can use alcohol _____ without harming my baby.	SC
I believe I can use narcotics _____ without harming my baby.	SC
I believe I can use marijuana _____ without harming my baby.	SC
I believe I can use methamphetamines or amphetamines _____ without harming my baby.	SC

I am _____ to develop a birth plan and talk to my healthcare provider about it.	SC
A pregnancy is full-term when it reaches _____ weeks.	SC
The following are benefits of a full-term pregnancy:	MC
The following is true about breastfeeding: (check all that apply)	MC
I am _____ to breastfeed my baby.	SC
If I am having difficulty breastfeeding my baby or if I have questions about breastfeeding, I know about _____ available resources in my community.	SC
I feel _____ about my ability to breastfeed.	SC
After delivery, I plan to take prenatal vitamins or multi-vitamins containing folic acid:	SC
I will put my baby to sleep on his/her:	MC
At home, my baby will sleep:	MC
I am ___ to talk about Safe Sleep with my child's other care providers (family members, childcare providers, etc).	SC
I am _____ to talk to my healthcare provider during my prenatal care about methods for preventing pregnancy after the birth of my baby.	SC
What method are you planning to use/talk to your healthcare provider about?	MC
I believe there is _____ to my health and the health of my next baby if I wait a minimum of 18 months before my next pregnancy.	SC
*Type of Answer Choices: FB: Fill-in-Blank MC: Multiple Choice SC: Single Choice Y/N: Yes and No (and Don't Know)	

Post Survey

The post-survey in DAISEY includes the same knowledge and behavior questions plus the following evaluation fields:

Question	Type*
Please indicate whether you have contacted or plan to contact the following community resources: • Childcare Services • Substance Abuse Treatment Services • Medicaid/KanCare • Tobacco Cessation • Domestic Violence Prevention Services • MCH Home Visiting Services • Mental Health Services • Kansas Infant Death and SIDS Network • WIC Services • Breastfeeding Support Services • Car Seat Installation • Parenting/Early Childhood Services • Transportation • Housing • Other Pregnancy Resources (i.e. Text-4-Baby, other local pregnancy services or childbirth classes, etc.) • Other (i.e. local food program, cloth diapering resources, etc.)	SC
How was your overall experience with the Becoming a Mom/Comenzando bien program?	SC
I felt a connection to and supported by other pregnant women in the classes.	Likert
I felt a connection to and supported by my class teacher or group leader.	Likert
How hard was the information in the Becoming a Mom/Comenzando bien session to understand?	SC
How much new information did you learn from the Becoming a Mom/Comenzando bien program?	SC

The Becoming a Mom/Comenzando bien teacher/instructor:	MC
How helpful/valuable was Session 1, the Prenatal Care session (common discomforts, prenatal care, conditions/complications, preterm labor, etc.)?	SC
How helpful/valuable was Session 2, the Pregnancy Health session (medications, avoiding alcohol, smoking, weight gain, healthy diet and exercise, effects of: stress, certain foods, infections, environmental exposures, etc.)?	SC
How helpful/valuable was Session 3, the Labor and Delivery session (preterm labor, labor and birth, coping mechanisms, birth plan, etc.)?	SC
How helpful/valuable was Session 4, the Infant Feeding session (breastfeeding, bottle feeding, hunger cues, etc.)?	SC
How helpful/valuable was Session 5, the Infant Care session (Period of Purple Crying, infant calming techniques, safe swaddling, SIDS Risk Reduction/Safe Sleep, infant car seat installation and other infant safety topics)?	SC
How helpful/valuable was Session 6, the Postpartum Care session (physical changes, emotional changes, keeping healthy after baby, birth spacing, family planning options, etc.)?	SC
Please provide below any additional feedback you may have regarding the Becoming a Mom/Comenzando bien program:	Narrative
*Type of Answer Choices: FB: Fill-in-Blank Likert: 5-point Likert Scale from Strongly Disagree to Strongly Agree MC: Multiple Choice SC: Single Choice Y/N: Yes and No (and Don't Know)	

Outcome Questions

The program utilized different methods at each program site to gather birth outcome data. Most data was self-reported by participants and some was extracted from accessible medical records by those involved in usual maternity care/services and reported to the program (as described in participant consent form). The questions in DAISEY include the following:

Question	Type*
What is the name of the hospital where you gave birth?	FB
Name of child:	FB
At what gestational age was your baby born?	SC
What was your baby's weight at birth?	SC
Were you induced?	Y/N
If you were induced, what was the reason?	SC
If "other", please explain:	Narrative
How was your baby delivered?	SC
If by Cesarean delivery, what was the reason?	SC
If "other", please explain:	Narrative
Did you develop any medical conditions during your pregnancy?	Y/N
If yes, please indicate the medical conditions you developed:	MC
Other medical condition:	Narrative
Are you currently breastfeeding your baby?	Y/N
If yes, how old is your baby currently?	SC
If no, did you nurse at all?	Y/N
If yes, how long did you nurse?	SC
Are you using:	SC
Did any information that you learned in class change your mind about:	MC
How old is your baby?	FB
Have you had/scheduled your first postpartum check-up?	SC

Where are you going/planning to go for postpartum care?	MC
Are you enrolled in the WIC Program?	Y/N
Please indicate whether you have or plan to contact the following community resources: • Childcare Services • Substance Abuse Services • Medicaid/KanCare • Tobacco Cessation • Domestic Violence Prevention Services • MCH Home Visiting Services • Mental Health Services • Kansas Infant Death and SIDS Network • WIC Services • Breastfeeding Support Services • Car Seat Installation • Parenting/Early Childhood Services • Transportation • Housing • Other Pregnancy Resources (i.e. Text-4-Baby, other local pregnancy services or childbirth classes, etc.) • If "other pregnancy resources", please specify: • Other (i.e. local food program/resources other than WIC, cloth diapering resources, etc.) • If "other", community resource, please specify:	SC
Have you scheduled or attended your baby's first check up?	Y/N
Do you have a doctor for your baby?	Y/N
What type of insurance do you have for your child?	SC
At birth, did your baby have any medical conditions/ concerns which required NICU admission?	Y/N
If yes, please indicate the conditions/concerns:	MC
Are you taking multivitamins/prenatal vitamins?	SC
I currently smoke ___cigarettes per day.	SC
Have you talked to your doctor about options for preventing pregnancy?	Y/N
Are you using or do you plan to use any method to prevent pregnancy?	Y/N
What method are you using/planning to use?	MC
Would you like to become pregnancy within the next year?	Y/N
*Type of Answer Choices: FB: Fill-in-Blank MC: Multiple Choice SC: Single Choice Y/N: Yes and No (and Don't Know)	

Outcome Record Linkage

In 2019, the first linkage between BaM participant records and the Office of Vital Statistics Birth Tables was conducted. Records for BaM participants were linked to the birth records based on 1) exact match on provided last name with married name in vital, 2) exact match on provided last name with maiden name in vital, and 3) SPEDIS (spelling distance) approximate matching in SAS, which matches based on how close the recorded last name in BaM matches (based on character placement) to the recorded names in the vital record. Participant's date of birth was also used for linkage and the expected due date for the birth (when available) and the date of the completed survey were also used for contextual clues.

The available fields of interest that were returned from the linkage included birth weight, gestational age, induction, cesarean sections, plural births, breastfeeding initiation, and deaths. Reported health coverage for mothers was also requested for internal evaluation of reported coverage in BaM.

Based on the initial linkage, about three percent of records did not return a linked result. Additional evaluation of the returned records led to removal of some records matched through the linkage process. Where a record was not linked, or a returned record was discarded, the original outcomes record was retained. Pre-post records without an outcome record were not retained if the linked record was excluded.

Overall, the total outcome records for analyses were increased from 692 to 1,024 potential records (including transfers) for the selected measures mentioned above. This is a 48.0% increase in the maximum number of potential records for evaluation, greatly increasing the sample size and improving the quality of analysis. This has improved KDHE's evaluation capacity for this program and creates the potential for taking a deeper dive into areas of interest, possibly aiding in discovery of the "who" and "why" that are questions often raised in some areas of the report. For instance, for induced deliveries the rate was significantly improved following the linkage from a rate of 45.3% (95%CI: 41.5, 49.1) from the original survey data to a rate of 37.5% (95%CI: 34.5, 40.5%) from the linked data. Efforts to enhance this linkage process/partnership with the Office of Vital Statistics will continue.